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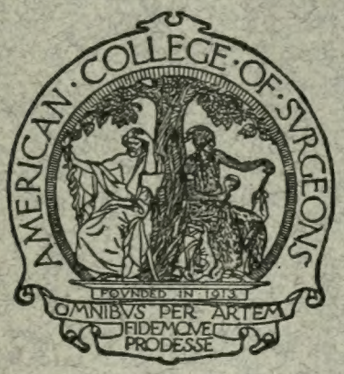
AMERICAN COLLEGE of SURGEONS

VOL. X APRIL, 1926 NO. 2



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BULLETIN

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VOL. X APRIL, 1926 NO. 2

AMERICAN COLLEGE OF SURGEONS
40 EAST ERIE STREET :: :: CHICAGO

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CLINICAL CONGRESS OF AMERICAN COLLEGE OF SURGEONS

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1926 CLINICAL CONGRESS IN MONTREAL

THE sixteenth annual Clinical Congress of the American College of Surgeons will be held in Montreal, Quebec, October 25 to 29, 1926, inclusive. The committee on arrangements, under the leadership of Dr. Alfred T. Bazin, is preparing a program of clinics and demonstrations to be given in the hospitals and medical schools that will adequately represent the clinical activities of Canada's great medical center. All departments of surgery will be included: general surgery, gynecology, obstetrics, orthopedics, urology, and surgery of the eye, ear, nose, throat, and mouth. It is expected that a preliminary clinical program will be published in the next issue of the Bulletin.

Since the 1920 session of the Clinical Congress in Montreal a number of new hospitals have been built and additions made to the older hospitals so that the clinical facilities in that city have been materially increased. Those who attended the 1920 session will recall with great pleasure the splendid clinical program offered by the surgeons of Montreal, and one may confidently expect that the program for this year's session will provide a larger and still more interesting series of clinics.

A committee, of which Dr. Albert LaSalle, ophthalmic surgeon to Hotel Dieu, is chairman, is preparing a special program of clinics, demonstrations, and papers that will be of particular interest to visiting surgeons who practice surgery of the eye, ear, nose, and throat.

Clinics and demonstrations are to be given at the following institutions: McGill University and University of Montreal medical schools; and the Children's Memorial, Hotel Dieu, Misericordia, Montreal General, Notre Dame, Royal Victoria, Saint Justine, and Shriners' hospitals.

The executive committee of the Clinical Congress is preparing programs for the scientific meetings to be held each evening in Windsor Hall at the Windsor Hotel. At these evening sessions papers dealing with surgical questions of present day interest will be read and discussed by eminent surgeons of the United States and Canada and by distinguished surgeons from abroad.

At the presidential meeting, to be held on Monday evening in Windsor Hall, the President-Elect, Dr. Walter W. Chipman, of Montreal, will be inaugurated and deliver the annual address. In the same room on Friday evening will be held the fourteenth annual convocation of the College.

The annual conference on the hospital standardization program of the College and the problems related thereto will be held in Windsor Hall at the Windsor Hotel on Monday and Tuesday, occupying both the morning and afternoon hours. The program for this conference will be published shortly and will outline an interesting series of papers and discussions of matters related to the conduct of hospitals presented by surgeons, superintendents, nurses, trustees, and others.

General headquarters for the Congress will be established at the Windsor Hotel on Dominion Square, where the Windsor Hall, Rose, Blue and

Oak rooms, and other large rooms and foyers located on the ground floor, have been reserved for the exclusive use of the Congress. More than a million dollars has been expended in recent years in remodeling and enlarging the Windsor Hotel. It is now under the same management as the Waldorf-Astoria in New York, the Bellevue-Stratford in Philadelphia, and the New Willard in Washington.

The hotel situation in Montreal has been greatly improved by the erection of a new hotel with over 1,200 rooms—the Mount Royal—located on Peel Street, two blocks north of the Windsor Hotel. The Queen's Hotel on Peel street near the Bonaventure Station, two blocks from the Windsor, has been remodeled and a new section added that doubles the capacity of that hotel.

In addition to the hotels named above, rooms have been reserved at the Ritz-Carlton, located at the corner of Mountain and Sherbrooke streets, four blocks from the Windsor Hotel; the Corona on Guy Street; and the Place Viger. We are assured of ample, comfortable accommodations at these hotels for more than 3,000; and, with the exception of the Place Viger, all of the hotels mentioned are within short walking distance of headquarters.

Following the plan in effect at all sessions in recent years, it will be necessary to enforce strictly the rule limiting attendance at the Congress to a number that can be comfortably accommodated at the clinics. The limit of attendance will be based on the result of a survey of the operating rooms, amphitheaters, lecture rooms, and laboratories in the hospitals and medical schools as to their capacity for accommodating visitors. This plan necessitates registration in advance on the part of all who wish to attend the Congress. When the limit of attendance has been reached through advance registration, no further application can be accepted.

Attendance at all clinics and demonstrations will be controlled by means of clinic tickets to insure against overcrowding and to provide for the distribution of visiting surgeons among the several clinics. The number of tickets issued for any clinic will be limited to the capacity of the room in which that clinic is to be given.

An application will be made to the railways of the United States and Canada for reduced fares on account of the meeting in Montreal, and it is practically assured that a rate of one and one-half the regular one-way fare will be authorized for this occasion, under the same conditions as have prevailed at sessions in recent years.

THE NEED FOR OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL DEPARTMENTS IN GENERAL HOSPITALS

S. MacCUEN SMITH, M.D., PHILADELPHIA, PENNSYLVANIA
Professor of Otology, Jefferson Medical College

DEPARTMENTS of Ophthalmology, Otology, Laryngology, and I must add Bronchoscopy, in general hospitals are so obviously essential that any worth while discussion of the subject must be directed to elaboration of this need. The departments have been so efficiently systematized and developed that they are virtually independent and separate units of a great organization, each working for its own advancement and all uniting in their efforts to build up a more efficient establishment which has for its object the scientific care of suffering humanity in all its phases.

Years ago these special departments were given little attention; later they were barely tolerated; still more recently they were accepted somewhat scornfully and always suspiciously; today they are universally recognized as not only desirable but actually necessary, in many instances, for the successful practice of the healing art as are general surgery, internal medicine, and obstetrics.

Many of us who were early workers in the establishment and development of special departments in general hospitals will remember the hostility frequently encountered. After years of strife—I might even say combat—recognition was finally obtained and minor chairs covering these specialties were established in many of our teaching institutions, but they were under the control of the chair of general surgery or medicine. Today full professorships covering the specialties obtain in most of our medical schools, to the advantage, I may add, of the school, the profession, and the public.

I regret that there seems to be a tendency, in an isolated instance or two, again to restrict the specialties or combine some of them under one chair. It has even been hinted that the teaching and examinations should be under control of the chair of general medicine or surgery. Adoption of this plan would be a retrograde movement reaching back twenty or thirty years into the past.

The follower of one particular line in medicine cannot fail to realize at the very outset that as the organism is composed of individual organs or members, each of which, although possessing functions peculiar to itself, bears an intimate and constant relationship to the others, the successful treatment of abnormal conditions of one organ or group of organs depends not alone on the correction of the abnormal condition itself, but on a careful study of the whole body. The internist, or practitioner of general medicine has, therefore, the opportunity to amalgamate and co-ordinate all these heterogeneous medical facts in his survey of the organism as a whole. The specialists furnish him with those facts which he has not the time, inclination or ability to secure for himself but which he knows are essential. He calls on his fellows to supply him with the missing links and gradually welds together a perfect diagnostic chain.

In addition to the necessity for departments of Ophthalmology, Otolaryngology, and Bronchoscopy in a general hospital for the treatment of diseases which are confined strictly to those parts and therefore require men specially trained in their handling, there is an equally important function for such departments in the correlation of these branches with general medicine and surgery and with other specialties. Diagnosis of many affections cannot be certain or complete without expert examination. The general practitioner's opinion of eye, ear, nose, and throat pathology is not dependable. Indeed, he frequently ignores it because of his lack of knowledge. The correction of errors of refraction and of muscular anomalies constitutes a large and important part of the eye work in a hospital and this requires the services of an oculist. It would be difficult for an internist to decide whether an ocular condition in a case of Bright's disease is due to a kidney lesion or to some local pathology of the eye. A skilled ophthalmologist should be the one to make a diagnosis of choked disc in a lesion of the central nervous system. In emergency cases, such as acute glaucoma, operation should be immediately done and this, again, demands the services of an ophthalmologist.

In asthmatics, the rhinologist must decide whether a nasal condition is the probable under-

lying cause of their symptoms. In the great variety of cases that are felt to be secondary to focal infection, that focus must be sought in the accessory sinuses of the nose and in the tonsils, as well as elsewhere. The important part that neurotology now plays in the diagnosis of vertigoes and brain lesions is one that cannot be ignored, and the trained otologist should carry out the tests for this diagnostic procedure. Instances of the inter-relation of the specialties and general medicine and surgery could be cited almost without end.

Bronchoscopy and œsophagoscopy have developed into life-saving procedures and are frequently required not only for the removal of foreign bodies from the larynx, trachea, bronchi, and œsophagus, but have also established for themselves a very important place in the diagnosis and treatment of disease. Bronchoscopy has been found to be of great value in the diagnosis and treatment of pulmonary suppuration and certain forms of asthma. It is the one outstanding means of diagnosis in malignancy of the lung.

Œsophagoscopy is not only useful in the treatment of cicatricial stenosis following the ingestion of lye but is the only means of obtaining objective data in the diagnosis of œsophageal disease, such as diverticulum, stenosis, ulceration, and cancer.

The vital character of these procedures and the necessity for having such a clinic attached to a hospital is well illustrated by the fact that there have been over fifteen hundred cases of foreign bodies in the air and food passages dealt with at the Bronchoscopic Clinic of the Jefferson Hospital, with an average of about ninety-eight per cent of successes. About eight hundred sixty bronchoscopies for disease have been done at the Clinic during the past year. Œsophagoscopies for diagnosis and treatment during the same year were about three hundred ninety.

A further illustration of the importance of bronchoscopic examinations in general hospitals occurred at the Jewish Hospital in this city recently. A patient had been treated for pulmonary tuberculosis for some time and applied to the out-patient department for an examination, with a view of admission to a sanitarium. The internist, who was familiar with the importance of bronchoscopic examinations in chest cases, was suspicious of the diagnosis and had an X-ray examination, which revealed the presence of a penny in the bronchus. The patient was admitted to the hospital and the foreign body was removed by means of the bronchoscope, followed by complete recovery. The patient has gained six pounds in weight in about three weeks.

In a general hospital in which the specialties are represented, this co-operation which utilizes the various departments enables one to assemble the special data that is essential for the development of the diagnosis in the shortest possible time, the physician in charge signing consultation slips requesting a report from the departments whose study a given case may need.

The present-day otolaryngologist and ophthalmologist recognizes his limitations and feels that he is no better prepared to care for general illnesses than is the internist to successfully treat many diseases of the eye, ear, nose, and throat. Hence, under efficiently organized departments in general hospitals for the care of eye, ear, nose, and throat, patients are equally well, if not better, cared for than in special hospitals devoted to these diseases, from the fact that we have at hand in the general hospital the advantage of immediate consultation with any other department of medicine that has any bearing on a given illness, and I may add that it is of equal service to the other departments of the general hospital to have available men skilled in these specialties.

So far as I am aware, these special departments are an integral part of all present-day hospitals. In cities where special eye, ear, nose, and throat hospitals exist, the demand for departments covering the specialties in the general hospitals is just as great, as it is manifestly impossible for these special hospitals to treat the ever-increasing number of those afflicted. Furthermore, the majority of people with diseases covered by the specialties go to general hospitals notwithstanding special institutions are available. In the last analysis it means that the general hospitals must have special departments, such as obtain today, or else the special hospitals must develop departments of general medicine and surgery. This latter assumption would not only seem unwise but impossible of attainment.

All teaching institutions must have hospitals and the clinical material which they furnish for the proper instruction of their student body. Here again we see our best means of correlating the various branches of medicine for the best interests of the patient, the student, the physician, and the institution.

In the organization of special departments in a general hospital for the treatment of patients suffering from diseases embraced in these specialties, it is absolutely essential that those taking up a specialty should be thoroughly prepared in their ground work. I regret to state that there are some men doing this line of work who are poorly equipped for its proper execution. It not infre-

quently happens that a prospective specialist becomes quite proficient in operative technique, but this is only a minor part of the preparation and training which is necessary for the development of a well-rounded specialist. It is equally important to know when not to operate, and most unfortunate to develop the habit of operating indiscriminately.

PHYSICAL NEEDS FOR OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL DEPARTMENTS IN GENERAL HOSPITALS

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Editor American Journal of Ophthalmology and Ophthalmic Year Book

AND

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IN PLANNING an arrangement for accommodations for eye, ear, nose, and throat patients in a general hospital, attempt has been made to approach an ideal. It must be acknowledged, however, that in few instances can this be attained, modified as it must be by local conditions, requirements, and financial and other handicaps. The best place in the world to treat conditions of the eye, ear, nose, and throat is in the carefully planned, thoroughly organized, well managed, special department of a general hospital.

There is no reason why wards and rooms, as well as equipment and general organization, for examination and treatment of eye, ear, nose, and throat cases in a general hospital should not be as complete and perfect as in hospitals exclusively devoted to these cases. On the contrary, as stressed by Shambaugh in a paper published in the Bulletin of the American College of Surgeons, April, 1925:

"In more recent years we have come to appreciate that a better place to care for eye, ear, nose, and throat patients is in a properly organized special department in a general hospital where other fields of medicine are adequately cared for. The ophthalmologists and otolaryngologists are as little fitted, as a rule, to care for their patients when they chance to be suffering from such conditions as pneumonia, cardiac disease, or kidney trouble, as the internist would be in attempting to care for eye, ear, nose, and throat complaints."

The advantages of a special hospital are, thorough recognition and adequate provision for special needs. The advantages of a general hospital are full recognition of the unity of the body and staff co-operation to ensure that all its needs are met. Both can be secured through the special department in a general hospital. If this thought has been expressed by other speakers in this discussion, it is important enough to deserve the emphasis of repetition.

So widespread have become the activities carried on in the ordinary Eye, Ear, Nose, and Throat Department of a general hospital, that it is believed to be necessary in the future for these institutions to devote an entire section to the care and treatment of the diseases of the head. Therefore the Eye, Ear, Nose, and Throat Department should be complete in every detail, or a small hospital within itself, especially constructed and equipped in the best possible manner to care for the type of diseases that will come to it, and yet closely communicating with the other departments of the general institution by arrangement and location in such a way as to facilitate intimate connection, consultation work, and association. The best place to handle special diseases is in a general hospital which has set aside space and service for such purpose. Economy of operation, as well as more satisfactory scientific results, are thus best accomplished.

In providing for the special needs of Eye, Ear, Nose, and Throat Departments, it should be recognized that a very large proportion of the patients to be treated in them are to be ambulatory. They are frequently seen first in out-patient clinics, are then hospitalized, and, after discharge from the hospital, require attention which should be given in an Out-Patient Department. If such a department is not connected with the hospital, additional facilities must be provided.

Of the wards and private rooms of the hospital a relatively small proportion need be set aside for these departments; but for out patients the provision should be as extensive as the out-patient work of any other department. But a small proportion of eye, ear, nose, and throat patients

require to be taken into the hospital at any time. Among them the turnover is rapid; and before admission to wards and private rooms, and after discharge therefrom, they will require attention in the Out-Patient Department. It is here assumed that an Out-Patient Department is a part of the hospital plan. If not, a dressing room must be used to carry on the after-care of patients discharged from the hospital who have become ambulatory, but who can not be said to be entirely well. Special accommodations may be arranged for young children, either cubicles or private rooms, and for certain cases a few private rooms should always be available in which perfect quiet can be obtained and the room darkened, if desired.

The care that eye, ear, nose, and throat patients require in the hospital has much in common with that of other patients. In general, wards and private rooms for them do not need to be differently planned or arranged from other wards and private rooms. Certain provisions that might be thought of in connection with eye, ear, nose, and throat patients, should be made for all patients. Complete darkening of rooms is not needed. After a cataract or glaucoma operation, a patient should not be placed in bed where he will have to face a glaring light. Neither should any other sick person be so placed. Provision for relative privacy and yet ready nursing supervision are just as necessary for these patients as for most others; and no more so.

Dark room special examinations are required for eye, ear, nose, and throat cases in the hospital; but they are also required for all sorts of medical and surgical cases treated there. If every hospital ward and private room cannot be darkened for them, each floor in each branch of the hospital should be provided with a room that can be so darkened and into which patients can easily be moved in their beds or can easily walk when they are in condition to walk about the hospital. Such a room may also be used as a dressing room.

An average sized hospital may be considered as accommodating five hundred beds. Of these, there should be set aside about seventy beds for eye, ear, nose, and throat cases. These may be distributed in wards as follows:

EYE	Male	15 beds
	Female	15 beds
EAR, NOSE, AND THROAT	Male	20 beds
	Female	20 beds

If, instead of wards, the hospital is constructed on the all private rooms plan, males and females may be distributed with more elasticity; in fact, the number here named is an average suggestion; and will, of course, be changed according to local requirements.

The operating room for major operations on the eye, ear, nose, and throat should have all the facilities required for major surgical operating in general. There will have to be done on the eye, cataract extractions, glaucoma operations, osteoplastic resection of the orbit, magnet extractions, etc. Modern ear, nose, and throat surgery now includes certain intracranial operations, operations in the mouth and of the jaws and the neck. Besides these, plastic operations of these parts cover a large field and are frequently taken over by the ear, nose, and throat surgeon. Bronchoscopy requires a great deal more hospital time than formerly and its demands are growing.

The operating room should be arranged so that it can be darkened, or so that strong light can be supplied from only one direction. In general the usual operating table is what is needed, special sterilizers for the preparation of small delicate instruments, and a few particular solutions for use about the region of operation may need to be provided. But these require no important provision in the planning of a general operating room. There should be provided the necessary accessories, such as an anæsthetizing room, sterilizing room, nurses' work room, utility room, etc. The operating room should preferably open directly off the wards and be of easy access to them without the necessity of elevator conveyance of the patients in this section.

For the Out-Patient Service of the Ear, Nose, and Throat Department, there should be provided:

A treatment room approximately 24 feet long, adjacent to the operating room if possible, containing at least four open booths for the treatments, dressings, and postoperative care of patients in the ear, nose, and throat section, before being transferred to the Out-Patient Department. The ceiling of the treatment room should be high, ventilation adequate, and daylight illumination preferred. The windows should be protected by a grooved slide of wood or other material, thereby making it possible to modify the entering light at the convenience of the operator.

Opening off of the treatment room, there should be a dark room at least 10 feet square and having indirect illumination and in which may be done transillumination tests. Adjacent to the rooms mentioned, a room should be provided at least 22 feet in length and 8 feet wide in which will be conducted hearing tests and labyrinthine tests. This room should be sound proof. It is also

desirable that with each ear, nose, and throat service unit, there should be provided a small room at least 8 feet by 12 feet in size for the purpose of examining with the stereoscope X-ray films, or possibly for making radiographic examinations of the skull sinuses, as well as the larynx and bronchi, in order to facilitate the localization and assist in the removal of foreign bodies.

In addition to the above-mentioned essential rooms, it is considered an excellent idea to have at a convenient location with respect to the service unit a "baby room." It is very practicable to have available a room properly equipped to which may be taken direct all smaller children for treatment, thereby obviating much screaming, noise, confusion, etc., in the general treatment room when infants are being attended to. To make this group more complete there should be available at the entrance to the service group and in direct communication with the wards, a small waiting room equipped with benches or seats of some selected type and in which may wait cases sent from the wards for dressings, or other treatment. The group would not be entirely complete without a small office for the nurse in charge.

An adjacent small room for the purpose of maintaining the records of the department is suggested. In general practice, it is customary for the histories of the patients in the section to be taken by the professional staff on the wards to which the patients are assigned. However, if this is not the case, the record room mentioned should be large enough to serve the purpose of a history room, in which records may be taken, consultations held, etc. Smaller hospitals may modify the size of rooms or, by combining several, reduce their number.

For the out-patient service of the Eye Department, there are required: A dark room, refraction room, treatment room, examination and case recording room in addition to the waiting room for patients.

The dark room must be used for ophthalmoscopy, skiascopy, bio-microscope trans-illumination, testing of fixation fields, and inspection of X-ray plates. It should be at least 8 feet by 12 feet in size, with 6 feet added to the length for each worker, more than two, who will be using it simultaneously. It should be painted a dull black throughout; and be divided in compartments separated by opaque partitions, running 6 feet from the floor and 6 feet apart, each furnished with electric outlets so that each worker can secure freedom from annoying reflections and side lights, coming from sources that are being used by others. An out-patient clinic of twenty ophthalmic cases a day cannot be adequately attended unless two or more workers can use the dark room simultaneously. It may well be located in the interior of a building (unless direct sunlight is to be employed in it); but its ventilation should be especially thorough and reliable.

The refraction room should be well lighted by diffuse daylight, particularly the end at which test cards are placed. On such cards strong light should fall obliquely, so as to give no annoying reflections visible to the patient. But even in the best lighted room, strong uniform electric illumination, falling obliquely on the test cards, must be provided, for cloudy days and hours when daylight illumination is inadequate. Only by this means can uniformity of results be secured. There should also be sufficient light at the trial case to easily distinguish the markings on the trial glasses. It is preferable to have a room 24 feet long so that the patient may be 20 feet from the test type, with room to pass behind him. The twenty foot range for refraction, however, is not essential. Any distance over 2.5 metres, 8 feet, will serve, and 5 metres is a very convenient distance if only in estimating the correcting lenses the distance, which should be an even 20 feet, is taken into account. The width of the room should be 5 feet for each of the workers who are to use it at the same time. Proper fittings must be supplied for hanging test cards; and mechanical arrangements by which they can be changed from the other end of the room are convenient. The refraction room should also have the needful electric current outlets for lights to be used in testing muscle balance.

The treatment room, which is also to be used for many examinations, should be well lighted by diffuse daylight, which is the best illumination for observing variations in the color of membranes and tissues. It should be 12 feet square for two treatment chairs; with 6 feet added to the length for each additional chair and clinical assistant working in the room. Room must be provided here, as well as in the dark room, for mapping fields of vision. In this room there must be hot and cold water, and a small sterilizer for the sterilization of instruments for minor operations on the eye and its appendages, a great many of which are done in the Out-Patient Service.

For taking and recording case histories a room 8 feet square will suffice where many parts of the first examination requiring good diffuse daylight can be made. It is desirable to have a long enough range to test the acuteness of vision and the muscle balance, along with the reactions of

the pupils, the tension of the eye ball, etc., without having to move the patient around from one room to another. Case records taken by an examiner and dictated to a recorder require enough space in this room for three people, as well as for case records that may be left there.

The arrangement of rooms should be such that both refraction and treatment rooms have direct access to the dark room; and the entrance to the group and the case record taking room are accessible to all the others of the suite.

In smaller hospitals where the service of eye and ear, nose and throat patients is carried on by the same staff, the combined needs can be met by one set of rooms. One dark room and one treatment room may be adequate for everything, and there will need to be but one room for case taking. But the arrangement of such a suite must be carefully adapted to its purpose and adequate space for refraction work must be insured.

In arranging to meet the physical needs of a hospital service, it generally happens that the new building plan used will be an improvement as to size and arrangement over the one that has preceded it. The realization that it is to be something of an improvement may often induce those who are to work in it to accept a continuance of some of their old inconveniences, in view of the distinct advances that will be made. This is particularly likely to be the case for those special branches that are not actively represented on the building committee. But to accept readily the perpetuation of poor adaptation of rooms in a new building, is always a mistake. One of the certain needs to be provided for is future growth and development, and it is always much easier to provide for everything that can be foreseen while working over, comparing, and finally deciding upon the building plans, than by making later alterations.

STANDARDIZATION OF EQUIPMENT, SUPPLIES AND PROCEDURES IN THE OPHTHALMOLOGY AND OTOLARYNGOLOGY DEPARTMENTS

W. W. PEARSON, M.D., Des Moines, Iowa
Otolaryngologist, Congregational, Mercy, and Lutheran Hospitals

MY ASSIGNMENT of Equipment, Supplies, and Procedures leaves me a little uncertain as to the intent of the maker of the program. I prefer to take up the third division, that of Procedure, first.

My conception of this, in a general way, is the handling of the patient from the time he enters the hospital until he receives his discharge. This will differ, depending on whether the hospital has a dispensary from which the patient proceeds or whether he is sent from a private office for operation or treatment.

Should he come through the dispensary, examinations will all be made in the hospital; whereas, if he comes from a private office, he may require only such examinations as are to be made by means of special apparatus.

Unless there is an unusually large amount of work there will be but little conflict in the use of the examining rooms and special apparatus. The operating room assignments here should be made in the usual manner—the operating program being arranged in the order of the requests from the different surgeons.

Histories should be taken in the wards or private rooms as far as possible so as to avoid crowding the examining or operating rooms. The efficiency of the department will depend largely upon its personnel.

The equipment for the eye division should be:

I. Refraction space:

1. A suitable desk and chairs.
2. A case of trial lenses.
3. Properly illuminated test cards.
4. Test cards for the near point.
5. A device for testing the muscle balance, such as a Maddox rod combined with rotating prisms.
6. A light covered with a shade having a diaphragm opening for this test.
7. An ophthalmometer with electric connection; also a perimeter—with chair and stool.
8. A small flash light to test the convergence.
9. A large standard sized screen to work out the muscle balance in unusual cases.
10. Refraction prescription blanks.
11. Cases containing the indices and case records (when it is desirable to keep these records in this section).

II. Dark room:
   1. A chair for the patient and a stool for the examiner.
   2. A trial case which may be on an extension bracket.
   3. An electric ophthalmoscope and retinoscope; also an electric eye illuminator.
   4. The corneal microscope with its stand and chairs.
   5. Good electric illumination controlled by a switch near the stool of the operator.

III. Eye examining and treatment space:
   1. A basin with running hot and cold water with adequate supply of linen.
   2. Also double ring stand for hand solution and sterile water.
   3. Soap receptacles and hand brushes.
   4. A table of good size, with
   5. Ophthalmological case containing bottles and jars of solutions and ointments for eye treatments.
   6. Bandages and eye dressings in sterile jars.
   7. A comfortable chair with a back that will, when tipped, drop the patient to a reclining position.
   8. A good light on an extension bracket that may be utilized for oblique illumination and with the Zeiss magnifier.
   9. A large water-tight waste receptacle.

IV. The space for ear, nose, and throat examinations and treatment:
   1. A basin with running hot and cold water with soap receptacle and hand brushes for the examiner.
   2. Ring stands with basins of hand solution and sterile water.
   3. A linen cabinet or drawer convenient to the basin.
   4. Suitable dressing table with the jars of sterile dressings and bandages.
   5. An instrument table.
   6. A comfortable chair for the patient and stool for the examiner. It is often practical to place the patient's chair between the basin and a combined instrument and dressing table. An additional small basin adjoining the hand basin with running water to be used as a cuspidor is a convenience.
   7. A properly placed light with focusing lens on an adjustable bracket to the side of the patient's chair for head mirror. Also light plug for the attachment of an electric headlight.
   8. A rack on the dressing table for solutions and ointments.
   9. A waste receptacle of generous size should be placed by the side of the patient's chair.
   10. Hot running water or heat of some origin should be at hand to heat the laryngeal mirror.
   11. At the side of the patient's chair should be the tube carrying compressed air with cut-off for sprays, etc.; also the tube connected with the suction pump for nasal work.
   12. There should be a rheostat attachment by the side of the patient's chair for Coakley's sinus illuminator, Mosher's mastoid illuminator, and Holmes' pharyngoscope.

The windows of this room should be so constructed with shades as to permit its ready conversion into a dark room.

The provisions for quiet when the hearing tests are to be made should also be considered.

V. Operating room:
   1. One operating table, capable of being elevated to eye level and tilted for bronchoscopic use.
   2. One operating chair.
   3. Two dressing tables.
   4. One instrument table.
   5. Two ring stands, double.
   6. Six basins for above.
   7. Three pitchers.
   8. Six small bowls.
   9. Three stools.
   10. One foot stool.
   11. Two waste receptacles—tubs or large floor basins.
   12. Four emesis basins.
   13. Instrument cases.
   14. One anæsthetist's stand supplied in the usual manner.
   15. The wash basin should have brushes, files, soap, etc.

The large operating room for joint use of the department should have windows capable of being darkened with shades or shutters. Artificial lighting should be by shadowless fixture in the ceiling with suitable wiring and sockets for accessory portable illuminating apparatus including light with focusing lens for sharp illu-

mination; and also stand lamp for use of head mirror and transilluminator, a permanent shadow box for X-ray, a headlight attachment and extra light sockets for emergency, and a basin with running water.

A room adjoining the operating room should have the sterilizers for instruments and dressing and rubber gloves; also cases for the following supplies: adhesive tape, pins, sterile gauze, cotton, bandages, rubber tubes, tissue, iodoform gauze; anæsthetics: general-ether, chloroform, and gas; local: cocain, novocain, holocain; analgesic: morphin; antiseptics: bichlorid, alcohol, carbolic 95 per cent, iodine; accessory drugs: adrenalin, salt solution, boric acid, atropin, eserin, argyrol or equivalent, silver nitrate, in ampules; ointments: vaseline, plain, White's ointment, zinc ointment, distilled water, applicators, tongue blades, and the necessary suture materials. In the greater number of hospitals the chemical bacteriological tissue and X-ray work will best be done in the general department units.

Adequate space should be provided for properly equipped and constructed museum cases which in time will develop into a valuable part of this hospital division.

A place for certain equipment such as the giant magnet and rotating chair, which are not in daily use, must be found, while the small hand magnet and Sweet's localizer will occupy but little space in one of the instrument cases in space adjoining the operating room.

If record cabinets cannot be placed conveniently in the refraction room, a space must be found for them convenient to both divisions of this department.

RELATION OF THE OPHTHALMOLOGY AND OTOLARYNGOLOGY DEPARTMENTS TO THE MEDICAL AND NURSING SERVICES

J. A. STUCKY, M.D., Lexington, Kentucky
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THE relation of the organization of the Department of Ophthalmology and Otolaryngology to the general organization of the hospital, including every department of scientific work in the hospital, should be one in which co-operative consultation as well as co-operative assistance for the best interests of the patient are maintained. The scientific and psychological value of this cannot be overestimated. The patient and the community must feel this genuine interest on the part of the entire hospital organization, not only in what is done but in the way it is done. The visible evidence of mutual interests, confidence, and aid, not only has much to do with the satisfactory progress of the patient, but with the increasing support and confidence of the community.

The different departments or specialties in the science and art of medicine cannot be successfully maintained as distinct and separate any more than one organ or limb of the body can be diseased or injured without the other portions of the body being influenced.

The desire and determination of members of each department in the general organization should be from a scientific and ethical standpoint that the best is barely good enough for the patient entrusted to the care and treatment of the hospital.

The importance of the Ophthalmological and Otolaryngological Departments to general medicine and surgery is not questioned. The organization of this department in each hospital should be decided upon by the Executive Board, and the men elected to serve upon this staff should be decided upon by a nominating committee composed of one or more members of the board and a member of the medical and surgical staff. When elected this department should select its own consultant senior, junior, and assistants.

The relation of the Ophthalmological and Otolaryngological Department to the general organization should be the same as that of general surgery and medicine, and their duties and relation to the laboratory, records, and staff meetings be the same; especial importance should be placed upon regular and prompt attention at staff meetings and the keeping of histories and charts.

Not the least in importance is the relation of this department to nursing. Unfortunately too many of our training schools are graduating nurses who pass the State Board Examination and receive the honor of the R.N., who know little or nothing about the essentials of nursing cases of injury or disease of the eye, ear, nose, or throat. These subjects should be taught by members of the department of Ophthalmology and Otolaryngology, with practical demonstrations, and a satisfactory

written examination passed by each pupil nurse before being allowed to graduate. In addition to this the State Board of Examiners of Nurses should include a sufficient number of practical questions in every examination before the State Board for the degree of R.N.

In this day and age the medical and nursing professions, the hospital and the public health clinic constitute a most important part of public service, and the nurse who executes the orders of the medical man must be qualified by her training to give safe and sane attention to the patient.

The hospital is conducted for the protection and welfare of both the patient and the medical man and the trained nurse is necessary to both.

The desire of the American College of Surgeons is to give the patient and the people not only a standardized hospital, but one with the best trained, untiring, and conscientious service. Our skill and aspiration must be backed up by a prompt, soulful service, and rigid observance of the principles of the Golden Rule.

FURTHER POINTS IN THE ORGANIZATION OF THE DEPARTMENTS OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

LEVERETT DeV. CHIPMAN, M.D., St. John, New Brunswick
Otolaryngologist, General Public Hospital

THE need for a properly trained eye and ear man, even in the smallest hospital, should be generally recognized, and proper provision made for his equipment. The day when the laryngologist and oculist were regarded as mere nose swabbers and glass fitters is past, and even the most benighted hospital group should recognize the fact.

The essential thing about the medical staff is that it should form a co-operative group, mutually helpful. The internist should be able to obtain a fundus examination or other special examination at the time when it is needed, not several days later, and of equal importance the finding should be properly recorded. Similarly the oculist should be able to obtain a proper physical examination and report when needed. To facilitate this work required examinations should be posted on a bulletin board, so that the attendant may intelligently plan his time. You have all experienced the annoyance, just when you thought you were through with your rounds, and hurrying to your office, of being hailed by a houseman and requested to make a special examination for someone; often, too, one finds that the examination so requested is of the utmost importance, requiring time and care. Posting required examinations would eliminate much hurried work.

Another question in regard to medical organization demands attention; that is, who should be allowed the privilege of operating in a hospital? This question could well be applied to all surgery, but to give it point, let us here limit it to tonsil operations. Now, there are general surgeons who do excellent tonsil work, and there are laryngologists who do poor tonsil work, but should there not be some standard? What is a just and reasonable stand for a hospital to take when a man who is not known to have taken any post-graduate work along this line, or even to have acted as an assistant in such work, proposes to do a tonsil operation in that hospital? If the Board is living up to the ideal of making the patient the first consideration, can they countenance this work?

The nursing staff of the Eye and Ear Department should be in charge of a head nurse, who has had special training in this line, both for operating room and treatment. Student nurses should be trained under the supervision of a head nurse. This will avoid the confusion and inefficiency inevitable when a nurse with general training only has the care of these cases suddenly thrust upon her.

THE CLINICAL LABORATORY IN RELATION TO OPHTHALMOLOGY AND OTOLARYNGOLOGY

By JOHN M. KOLMER, M.D., Philadelphia, Pennsylvania
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THE following items may be listed as important in relation to the organization of a laboratory service in ophthalmology:

1. To provide facilities for the bacteriological examination of all infections of the lids, conjunctival, cornea, and lacrimal organs. For this purpose the clinic should have constantly on hand a supply of clean microscopical slides, blood or serum agar, and sterile cotton swabs. Cover glasses should not be used.

2. Well prepared smears are frequently of more value than cultures and particularly for the detection of organisms which do not grow easily, like the Koch-Weeks' bacillus, pneumococcus, streptococcus, etc. Smears, however, are generally useless unless small amounts of pus at least are obtained. Smears the size of a dime are large enough and care should be exercised against spreading a small amount of secretion over a large area of slide, which renders them too thin and thereby useless. As a general rule at least two smears should be made so that one may be stained by the Gram method.

3. Cultures should be made only on rich media like blood or serum agar or Loeffler's blood serum. It is useless to use plain agar, gelatin, plain broth, etc., because these only suffice for cultivating the more hardy organisms like staphylococci.

4. Laboratory facilities should be provided for differentiating bacteria by biological tests and animal inoculation.

5. For studying the bacteriology of the eye preliminary to operation, both smears and cultures should be made. The latter are the more valuable of the two because the usual few organisms to be found may be overlooked in smears.

6. In my experience staphylococcus albus, bacillus xerosis and type IV pneumococcus are the most commonly found bacteria in the approximately normal conjunctiva. I believe it is safe to operate on the cornea and lens in the presence of a few of these, providing there are no signs or symptoms of bacterial conjunctivitis or dacryocystitis. If time permits, however, it is well to reduce the numbers present by preliminary disinfectant treatment. Operations in the presence of staphylococcus pyogenes aureus, all streptococci, bacillus friedländer and large numbers of pneumococci are greater risks.

7. Facilities should be provided for conducting Wassermann tests on all cases of ocular disease in which the barest suspicion of syphilitic infection is present. It is possible that the complement fixation test may be also of some value in the diagnosis of gonococcus and streptococcus iritis.

8. Facilities should be provided for the bacteriological examination of all excised portions of the iris in inflammatory conditions; these cultures are best made by dropping the excised tissue into a tube of brain harmone broth at the operating table. The advance of ophthalmologic bacteriology demands a larger amount of routine bacteriological examination of the iris, lens, and other deeper structures, and especially for the exact diagnosis of focal infections.

9. Facilities should be provided for the preparation of autogenous vaccines for the treatment of chronic bacterial infections, especially dacryocystitis and some types of iritis due to focal infection with accessible primary foci in the tonsils or apices of the teeth.

10. Facilities should be provided for the conduct of allergic skin tests for affording aid in the diagnosis of vernal conjunctivitis and hay fever.

11. Facilities should be provided for the routine histological examination or preservation of all eyes removed by operations. For this purpose the eye should be hardened in several columns of 5 per cent formalin for at least several days before it is sectioned. *An eye should not be dissected immediately after removal, or subsequent histological examination and preservation may be rendered difficult or useless.*

12. Facilities should be provided for the thorough examination of the urine and for the determination of sugar, urea, non protein nitrogen, and creatinin of the blood in relation to the diagnosis and management of albuminuric and glycosuric retinitis.

The following items may be elicited as important in relation to the organization of a laboratory service in otolaryngology:

1. Facilities should be provided for the immediate or early diagnosis of diphtheria by means of the bacteriological examination of smears or cultures. Also for the immediate diagnosis of Vincent's angina by the examination of smears. Every otolaryngologist, in my opinion, should be

qualified to make these two examinations at least in the shortest period of time and especially in the case of diphtheria, since the prognosis is affected by the promptness with which antitoxin is administered.

2. With the exception of Vincent's angina the bacteriological diagnosis of infections of the ear, nose, and throat are better made by well prepared cultures than by smears. The two best culture media are blood agar and Loeffler's blood serum. Plain agar, gelatin, and broth are of very limited value because they do not serve well for the detection of pneumococci, streptococci, and similar less hardy organisms.

3. Facilities should be provided for the securing of material and preparation of cultures from the post-nasal space and accessory sinuses with the minimum of contamination. Such cultures should be made in the clinic and not in the laboratory.

4. Facilities should be provided in the operating room for the preparation of smears and cultures (preferable on blood or serum agar) of all cases of mastoiditis, because if pneumococci are found, the danger of secondary meningitis is always greater than in other infections.

5. Facilities should be provided for the conduct of spinal puncture and the complete examination of cerebrospinal fluid for number and kinds of cells, protein, sugar, and bacteria in all cases of suspected meningitis; also for the Wassermann and colloidal gold tests in all cases of suspected syphilis of the central nervous system and especially those showing disturbances of the eighth nerve.

6. Facilities should be provided for the preparation of autogenous vaccines by acceptable methods with special reference to the detection of pneumococci, streptococci, and less hardy organisms in addition to the usual staphylococci, diphtheroid bacilli, *bacillus pyocyaneus*, etc.

7. Facilities should be provided for the guinea-pig virulence test of diphtheria bacilli in relation to carriers and quarantine. Also for the conduct of guinea-pig inoculation tests for tubercle bacilli.

8. Facilities should be provided for conducting the Schick test for immunity to diphtheria and the active immunization of positive reactors, as an important part of the program for the eradication of diphtheria. The same may be stated in relation to the skin test for scarlet fever and active immunization against this disease.

9. Facilities should be available for the detection of carriers of diphtheria bacilli, the miningococcus and possibly the fixed serologic types of pneumococci.

10. Facilities should be provided for the Wassermann test in all cases in whom the history or clinical state may only suggest the presence of syphilitic infection.

11. Facilities should be provided for conducting the allergic skin tests for hay fever and vasomotor rhinitis.

12. Facilities should be provided for the prompt histological examination of tissues removed. These should be sent to the laboratory in sterile gauze immediately if cultures are to be made. Otherwise the tissues may be placed in 5 per cent formalin. Whether all tonsils and adenoids are worthy of histological examination is a debatable question; in my opinion routine examinations are not required, especially in children, although it is wise and profitable to examine the tonsils removed from adults.

Certain points in organization are worthy of special emphasis for establishing the best relations between either clinic and the laboratory; these may be briefly summarized as follows:

1. To adopt a system of records whereby requests for laboratory examinations are made in writing; also for a return of the laboratory report in writing, which in turn may be incorporated into the history, and the filing of duplicate reports in the laboratory.

2. To insist that the clinic, when sending material to the laboratory for examination, will specify exactly the examination desired.

3. To avoid unnecessary requests, as this is bad on the morale of the laboratory staff and wastes time and materials.

4. To submit with each request for a laboratory examination such clinical data as may aid the laboratory in its investigations. This is not intended to aid that dishonest laboratory practice of making the report concur with the clinical diagnosis, but is part of the co-operation so necessary for success enabling the laboratory to make the most useful examinations. Furthermore, it permits the laboratory to suggest additional examinations overlooked by the clinic.

5. To leave the interpretation of results obtained in the laboratory to the clinician, although sometimes the pathologist or bacteriologist is better qualified to interpret results.

6. Finally, and most important of all, to organize for the best possible co-operation between clinic and laboratory. Personal visits of the clinician to the laboratory and invitations to the pathologist to visit the clinic and discuss interesting cases can not fail to be the best possible single factor in organization for securing the best results for clinician, laboratorian, and patient.

THE X-RAY DEPARTMENT IN RELATION TO OPHTHALMOLOGY AND OTOLARYNGOLOGY

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THE relationship of the X-ray Department to the special departments in a general hospital is no different than it is to any other department. An X-ray examination is an X-ray examination. The only difference between a general X-ray examination and one regarding reference to otolaryngology is in the method of interpretation, and no special technique or apparatus is required. I feel more as though I would like to teach you how to use it rather than to tell you what kind of a department to have.

The greatest trouble that the roentgenologist has in regard to head work is proper co-operation and consultation. Those two words represent the success or failure of an X-ray Department. It is not a photograph gallery. I have heard the discussion today about putting an illuminating box in this room and that room, for the viewing of X-ray plates. That is all well and good, so far as reference is concerned, but how many times do you go to the X-ray laboratory and yourself talk over those plates with the roentgenologist? If you would be a little more lenient and make the roentgenologist a clinician, you would get more results from your X-ray examinations of the sinuses and mastoid. I am not speaking now of the special departments. It is impossible to put a report down on paper in black and white, and describe to you the appearance of the mastoid process in the presence of disease, or to tell you what an ethmoid condition is, but if you come up to the laboratory and talk it over with the roentgenologist, particularly in the general hospital where not so much X-ray work regarding the sinuses is done, you will get more results and better satisfaction. And right here I would like to suggest that more examinations be made of the sinuses and mastoids.

I notice a little further along on our program there is a topic on "Hospital Economics." Shall we make so many X-ray examinations? I say that you cannot make too many X-ray examinations, particularly on a special subject in a general hospital. You have to keep the roentgenologist as well as the technician up-to-the-minute in his interpretation and technique, and that can only be done by practice. If you send in a sinus today and a mastoid tomorrow, and then wait a month before you send in another one, you need not expect him to be able to tell you what he finds. The roentgenologist and the technician must be trained, and training is gained only by practice.

So I don't feel that there is any necessity for the description of a special technique. There is none. Just use the department with common sense; talk the cases over as you would to a fellow-surgeon; use it as a means of consultation, and you will get more benefit yourself, the X-ray Department will have a better reputation, make fewer mistakes, and altogether the patient will be better served.

ANÆSTHESIA IN RELATION TO OPHTHALMOLOGY AND OTOLARYNGOLOGY

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IN ORDER to standardize anæsthesia, first of all we must have accurate statistics, accurate records of whatever method or whatever anæsthesia we may use. It makes no difference if we use merely and only the drop method of ether, we should have an accurate record of each and every case.

The requirements differ, of course, with the operation, with the anæsthetist, and with the surgeon. Only a few years ago we had but three or four anæsthetics and only a very few methods. Now we have a number of anæsthetics and a number of methods to choose from, and they vary in different localities. Doctors, passing over the United States, make the remark, as they come back to New York to go abroad, that in no two places have they seen anæsthesia exactly alike; each one has its own peculiarities, and in no special way do they vary so much as in the administration of the anæsthetic for adenoid and tonsils.

Personally, I think that it requires more skill and more judgment to produce a good anæsthesia for adenoid and tonsil operations than for anything else in surgery, to get a patient under easily and quietly, to have all reflexes abolished, and to bring him out quickly.

Looking over the statistics, as we know them today, it seems to me that if a surgeon can possibly qualify himself to use local anæsthesia, that he should do all adult tonsils under local anæsthesia instead of under general. This fact has been brought home to me very forcefully lately by the loss of a daughter of a very dear friend, who died from lung abscess six months after an adenoid and tonsil operation. There is no question as to the reason for that, i. e., there was no teamwork between the surgeon and the anæsthetist, and there was a lack of an efficient suction apparatus in that special hospital. I was not present at that operation, but the general principle applies to all of them. If we are going to do any standardization, I don't think that any one should be allowed to operate for adenoid and tonsils unless there is a suction apparatus in the operation room.

Again, in taking a patient for X-ray, if you are using any other anæsthetic, it seems to me that nitrous oxid and oxygen is especially indicated for that work. Outside of the X-ray Department, we have three gases now that are much safer and better in every way than nitrous oxid, and if nitrous oxid is indicated, we should use either propylene, acetylene, or ethylene. Each and every one of these gases is safer than nitrous oxid. Nitrous oxid is an asphyxiating analgesic. Propylene, acetylene, and ethylene all act in a measure as do choloroform and ether, and with each of them we can supply more oxygen than with nitrous oxid. For instance, with nitrous oxid we can give a very good anæsthetic with from 7 to 9 per cent of oxygen; with ethylene we can give equally as good an anæsthetic with from 10 to 20 per cent of oxygen, and with acetylene we can carry a patient to the same degree of anæsthesia, reflexes, and so on, with from 20 to 50 per cent oxygen, while with propylene we can produce the same results with from 40 to 70 per cent oxygen. But that is not the reason why these three gases are safer than nitrous oxid. The reason is the difference between analgesia and anæsthesia.

For instance, there is only 2 per cent difference between analgesia and anæsthesia in laboratory animals with nitrous oxid. With the other three gases there is between 20 and 50 per cent difference between analgesia and anæsthesia. What I mean by that is this: That we may have a patient under nitrous oxid, we may have him becoming asphyxiated and cyanosed and yet he will respond to the pain reflex. With propylene especially, the abolition of pain is reached so quickly in the administration of that gas, that we can really do certain surgical operations with the patient semi-conscious, or conscious, and have a better brain block than we can have with a patient under nitrous oxid, fully anæsthetized to all outward appearances.

Then again, we know why certain anæsthetics are contra-indicated in certain diseases. It is criminal to give ether to a tubercular patient by inhalation, and yet we can give ether colonically to that same patient without hurting him in the slightest. We can give ether in oil, colonically, to a patient, and even with hæmorrhages, to the tubercular patient, and that patient will not be any worse from the administration. Yet if we give ether by inhalation to that same patient, we

probably will have to sign a death warrant within from four to six months.

Then again, we come to the question of whether or not we should use preliminary medication. It has lately been proven beyond all question of doubt that a patient, when he comes to anæsthesia even with the ordinary hypodermic of one-sixth or one-eighth or one-quarter of a grain of morphin, shows a rise in pulse from 10 to 20, and in some instances to 80 or 90 systolic millimeters pressure.

Just two days ago I had a patient anæsthetized and his pulse went up to 132, just before the administration of the anæsthetic, and it came down during the anæsthesia to 96. There is no necessity for upsetting the physiological balance, provided we pay a little more attention to preliminary medication, and one of the best preliminary medications that we have been able to devise as yet is based upon a synergy of magnesium sulphate and morphin. If morphin is administered in magnesium sulphate, the abolition of pain will last from five to ten and fifteen hours, instead of two, three, and four hours, as when morphin is given in plain water. When you give magnesium sulphate in 2 cc. of a 50 per cent solution, you lessen the toxicity one hundred times, and so you need not question in the slightest the toxicity of magnesium sulphate. It is a very simple matter, if you use a test for yourself, to find whether or not what I say is true. Take a chemically pure magnesium sulphate and sterilize two or three times, and then dissolve your tablet in the magnesium sulphate, instead of in plain water.

If you give a patient who has come in to operation, say, for a mastoid, a hypodermic of an eighth of morphin and 2 cc. of magnesium sulphate two hours before the operation, and repeat that once or twice, according to the patient's need, according to his physical condition, according to the weight and strength of the individual, you will find that he will require one-third or one-fourth less ether, for instance. He will be in a condition where the dread of the anæsthetic will not be so great and where the blood pressure and pulse will not go up as it does without this preliminary medication.

During the war, operating at the front with Colonel Yates, we devised in the laboratory a method that we carried out very successfully at the battle front, and that is this: We gave every patient who came to us, three-eighths of morphin before operation; three-eighths of morphin in plain water, and then we supplemented that with nitrous oxid and oxygen. We had at our table, in over 90 per cent of the cases, patients who were wounded either through the chest or belly, and we found out that the mortality was considerably reduced by this procedure. Yet, coming back, there are very few surgeons who are willing to give three-eighths of morphin. There is no danger in that, provided your anæsthetist meets this preliminary medication with whatever anæsthetic he gives. In other words, instead of overlapping that preliminary, try to meet that, and when you get analgesia and unconsciousness, you have accomplished all that you would expect to get with a very deep anæsthesia without this preliminary.

The easiest of all surgical cases to anæsthetize, in my opinion, is a mastoid operation, and I think it is a painful thing to see a patient sick, nauseated, and vomiting after a mastoid operation, because this condition can always be avoided, by giving the preliminary that I have just suggested and supplementing that with ethylene, nitrous oxid, and oxygen.

With adenoids and tonsils, as I have stated, there is a tremendous amount of difference. Everybody who does an adenoid and tonsil operation has his own operation, and such a thing as standardizing an adenoid and tonsil operation is out of the question, and such a thing as giving an anæsthetic for it is out of the question; that is, so far as standardizing it is concerned. Those who have mastered the details of the technique of local anæsthesia, of course, prefer that; but there are a great many men who make the foolish mistake of not giving any preliminary to their patients when they propose to have those patients under local anæsthesia. In my opinion, those patients need preliminary medication just as much as a patient who is going to be anæsthetized with ether, or choloroform, or nitrous oxid. You will find that if you use preliminary medication and then use your local anæsthesia, as if that preliminary had not been given, whereas your patients usually shrink from the operation, they will be perfectly calm and quiet.

ESSENTIALS IN CO-OPERATION BETWEEN OPHTHALMOLOGY AND OTOLARYNGOLOGY AND ALLIED DEPARTMENTS

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THE co-ordination between the laboratory and its various departments and the operating surgeon at the table, whether he be operating on the head or on the abdomen, is of prime importance. The laboratory in order to be efficient must have all departments. The larger the hospital, the more requirements are put upon the laboratory. The laboratory is not only a medium for making and confirming diagnosis, but is a medium of consultation. If the laboratory director and his various specialized assistants are taken into consultation with the operating surgeon, a great many mistakes that have been made in the past, a great many of the regrettable incidents that have taken place can be and will be overruled.

Many times you will say to yourself, "Why didn't I know this, and why didn't I think of that"? It is not within the power of one man to know everything or to take account of everything. It is within his power to know where he shall go for these various types and parts of information; and one of the greatest aids we have today in pre-anæsthetic and pre-operative preparation is our laboratory. It is well even to put off an operation for hours, weeks, days, or any length of time, if our laboratory gives us adverse reports. It is foolish, except in anything but grave emergencies, where we are particularly prone to disregard anything but the absolute essential, to go ahead without any laboratory preparation, without any laboratory advice. The laboratory is the one unit in the hospital that can, and does, function alone. There is no other unit in the hospital that can function without the laboratory. Therefore, in all hospital construction plans, whether they be comprehensive for building an entire hospital from the ground up, or whether they concern the remodeling of an old, with a view toward entirely replacing the hospital in the future, the laboratory should be the first unit to be constructed, the first unit to be perfected, the first unit that can work alone and therefore aid all other departments.

I think that surgeons working on the neck, the head, and the sinuses are very prone to disregard to some extent the safeguards that surgeons working in other parts of the body take. Certainly the laboratory requests are less in number. Whether they are as necessary or not is a question to be decided by the oto-laryngologists, but their laboratory requests are fewer in the aged, in the infirm, in the extremely sick; with a long disease, such as a chronic mastoid very often is, deleterious things are formed in the body, deleterious processes are rampant, and their results can only be found out in the laboratory; whether they are present, whether they are forming, or whether they are likely to be formed all that can be told in your laboratory.

Waste of our various hospital staffs, useless requisitions to the laboratory, useless requisitions to the roentgenologist, are probably drummed into all of us. But these are merely relative terms. Many times a routine examination for syphilis will be absolutely useless in that it is negative. Many times you will find there will be no indication of a specific disease, and yet our blood serology will come back and tell us it is positive. That does not mean that it is positive. But if we back that up with other known methods, we very often find that we would seriously have overlooked a portion of our pathological study that was extremely important. Routine examinations of the basic principles, of the fundamentals, are important and are not a waste.

As Dr. Law has said, in roentgenology, if you do not take X-rays frequently, if you do not take a multitude of them, the technician, the roentgenologist cannot and does not keep up in his standard with roentgenology in other parts of the world, and he does not give the detailed information that can be and will be gladly given out from the roentgenological laboratory, if the co-operation is such that surgeons can and do ask for all examinations that they can think of, that are pertinent to the subject, and not be held down or hide-bound by expense or by waste.

True, in smaller hospitals, where they are not heavily endowed, where they are dependent on individual charitable contributions, economy must be and is practiced. In our large hospitals, where the money is more plentiful, not to waste but to use judiciously, we can ask for all manner of laboratory examinations, all manner of X-ray examinations, and thereby we can find out what

methods are essential in various types of diseases. In the study of malignant diseases of the head or of any part of the body, if we did not know where to look for metastasis, how would we know what parts to ask for in the X-ray examination? If we had not made a multitude of examinations, so-called useless or unnecessary, or in other words that come back to us as negative findings, how would we know where metastasis first started, how would we know where to look? In our smaller hospitals we must use that knowledge that has come from so-called unnecessary and expensive laboratory requests. Therefore, we have two entirely different kinds of laboratories, and we, as surgeons, must find out what the requisites are from our patients and suit those into the hospital economy. Where you have unlimited hospital facilities for a laboratory, use them to the fullest. Where you have a limited amount of appropriation, where your hospital is practicing economy in every department, not only yours but in every department, then it is up to the operating surgeon to practice this economy just the same in co-operation with all other departments, and, as I say, you must have both kinds,—you must have practice in both kinds of hospitals or you will not co-operate to the fullest extent that your laboratories will allow you to do.

I feel very strongly on this pre-operative or pre-anæsthetic preparation and medication. The operating surgeon is the absolute dictator of his operating room. There is no doubt about it, and nobody in this world will contradict him, if he is the good operating surgeon that most of our major chiefs are. But under any director, there are departments, and if he cannot trust his various departments, he should get rid of them, clean them out, put in a new department; put in a department that is efficient, that he can depend upon. If he has to go to each department and give the details of work for each case, those departments are useless; he is running himself into the grave; he is getting namby-pamby results; he is getting results that are not creditable to him nor to his institution. Therefore, each department, laboratory, X-ray, anæsthetic, should have its own head, which head is either practical or practically theoretical, or at least in constant touch with that department, to see that that department is functioning, and is functioning to the utmost degree. All the operating surgeon ever asks of an anæsthetist is to give him a patient in the degree of anæsthesia and analgesia that he wants. There are few surgeons who will designate the various types and kinds of anæsthesia, and some men like one, some like the other; all their reasons are well founded, they have had experiences in the past that seem to show them that certain anæsthetics are the best to use in certain cases. If you give your surgeon a case that is in anæsthesia sufficient for the operation that he is about to perform, he should not tell you how much nor when to start, nor when to stop, nor when to leave off, nor when to give it, nor to give more or less. That is the Anæsthetic Department's own prerogative. If it cannot exercise that prerogative, get rid of it.

Pre-operative medication is a matter of individual choice, it is a matter of the anæsthetist's reaction to his particular field; it is a matter of personal equation with each patient brought up. Some patients are highly excitable; others are phlegmatic. The highly excitable patients should be brought down to the point where they are co-operative. The phlegmatic patients should be stimulated up to the point where they are reactionary. In other words, try to make the patient as uniform as possible.

The old type of preliminary medication, which most of us have used for many years, consisting of morphin and atropin, is very excellent in the hands of the amateur, very excellent in the hands of the physician who does not want to think, very excellent in the hands of the resident intern who gives it widely. A quarter of a grain of morphin, unless something else was concurrent, never killed anybody; a hundredth to a one hundred fiftieth of atropin is always a good stimulant, but anybody can give that; that doesn't show thought; that isn't taking exercise of your proper functions, of your learning, of your advancement in learning. Why have we now the many, many anæsthetics that we have, both local and general? Because men are thinking. If men were not thinking, morphin and atropin preliminary and a drop ether would be all that any one would ever require in anæsthesia. Every one is not constituted the same. We must therefore use various anæsthetics, various methods, various preliminary medications.

The mixture of magnesium sulphate and morphin is an excellent one to use preliminary to operation. In my experience, it does not fit all cases. In some cases it will put your patient so far down that, unless you are giving the anæsthetic or a person well skilled in the administration of that anæsthetic, it will alarm the operating surgeon. Above all, your case should have no concern on the part of the operating surgeon. His case should remain for him in one stage all the time. It is up to the anæsthetist to bother about

whether the patient is up or down. As I say, preliminary magnesium sulphate will at times put a patient very far down, and unless you are perfectly aware that that patient has had magnesium sulphate along with his preliminary morphin, you are very likely to get that patient too far down. That is due to the fact that the nursing staff and the anæsthetist are not well skilled in the administration of that anæsthetic. If the record is not made very plainly, or as happens once in a while, not at all, and morphin happens to be given with the magnesium sulphate, your patient will go very deep. It is never dangerous, however. The toxic dose of magnesium sulphate, as has been stated by Dr. Gwathmey, is way above our heads; we need not fear about that, if our patient reacts normally. That comes back to the beginning; if your records are complete, you can tell what to use and what not to use. The records of your hospital, therefore, are an essential.

The administration of the various gases is excellent, in the hands of the right person. To my mind, the administration of gas oxygen anæsthesia and the newer gases is vastly more dangerous than drop ether, in the hands of a novice. There should be no novices in this Department of Anæsthesia. How can we get over that novitiate? They should be taught not by book, not by classroom recitation, but by practice, and at the end of their period, they should give sufficient accounting of themselves to show that they have that knowledge—some men get it very quickly; some get it very slowly; and some never get it; some never will get it, and those men should be politely told that their fields of endeavor are in other places. Some medical men will take to anæsthesia like a duck to water. It is a very grave proposition. There should be no novices; they should be taught by hand, turned out by hand, and vouched for individually.

It is not true that anybody can pick up a can of ether and put a patient in an ideal anæsthetic state, and do it with safety. Some men can. They are natural anæsthetists. But the vast majority of us have to be taught. The further you go into anæsthesia, the higher you go, the more you get into your various gases and combinations of gases, which are all very excellent, but they are not for the hands of the novice. The hands of the novice can probably give ether with safety, but not any other anæsthetic, in my opinion.

In the work on the head, it requires a special type of anæsthesia. Men who are vastly more skilful than I am in the administration of the gases claim—and I have seen them do it—that they give an anæsthetic nasally to a patient with an operation on the throat or the mouth. It is a very difficult anæsthesia to give, unless you are especially versed in that,—and there are very few of us who have reached that stage of perfection.

The intratracheal anæsthesia came out many years ago. It is being used to some extent, but to a limited extent, because the placing of those tubes requires an amount of skill which is not ordinarily required of an anæsthetist. If they are not properly placed, there is no halfway in between; they don't work or they do work. The amount of pressure required, the amount of anæsthetic required to carry this procedure through, is a matter of practice, and very few of us have the opportunity to have that practice. Therefore, the intratracheal anæsthesia has more or less fallen into disuse, although in some places it is used with a great deal of success and satisfaction. We have our nasal tubes that are used. They are all right for a very light anæsthetic, but they are not especially good unless you combine a small amount of ether along with your gases, to give them the necessary last touches for your procedures in surgery.

Local anæsthesia, to my mind, is the ideal anæsthesia for nose and throat. Rectal anæsthesia, in the hands of a person who understands rectal or colonic anæsthesia, is the best, but that again requires experience. Local anæsthesia does not require the amount of experience that a general anæsthetic does. If you happen to get your local anæsthetic in wrong, there is no harm done; you just have no anæsthesia. If you don't know when your patient has an anæsthesia, that is hard on the patient. But if you get it in right, you know it; if you get it in wrong, you know it, and you can put it in again if it is in wrong. The solutions we use nowadays in local anæsthesia are all non-toxic. I believe the eye surgeons are still using cocain to a great extent; but then they don't get the cocain taken up as we do who use it in the hypodermic form subcutaneously or intramuscularly. Therefore, there cocain is safer than when used in various parts of the body. But speaking of cocain, for the removal of polyps or tonsils or adenoids, it is probably the best known of all local anæsthetics used. Apothesine has come out, and it approaches novocain very closely. However, I do not think that following apothesine we get as kindly healing as we do after using novocain. I have used as high as twenty-four grains of novocain at times and have had absolutely no toxicity. But I will say that

twenty-four grains will not be used by me again. It was inexperience that led me to use that much. The more experience you have with any anæsthetic, the less you have to use of that particular anæsthetic for the patients to keep in the state in which you wish them to be. I say that purposely instead of using so-called third or fourth state anæsthesia or surgical anæsthesia, because on certain operations we do not need third stage anæsthesia. Therefore, I use the term of a sufficient amount of anæsthesia for the purposes of the operating surgeon.

In colonic anæsthesia of ether, I follow quite closely Dr. Gwathmey's technique, which was laid down some years ago. I find that the 75 per cent of ether in oil is extremely satisfactory. When we first began to use this method we had some tenesmus and enteritis, and that was because of the irritation of the colon due to the ether that we had not properly taken care of. If you have an absolutely clean colon, if you have a perfect emulsification of your ether and your fats and your soap that you use post-operatively, you will have no enteritis and no tenesmus. If you use your local anæsthetic correctly, you will have no post-operative results of bleeding. The man who uses too much adrenalin in his mixture is not using his adrenalin properly, and he gets postoperative bleeding. However, our experience has shown that this is not necessary.

If you use pre-operative medication, regardless of the kind of anæsthesia you use, the patient will be a better patient the next day, there will be less reaction, less nausea and vomiting in the case of local anæsthesia, and there will be less loss of the heat and reflexes that come following any anæsthetic used in a general way.

Your pre-operative medication is very important, but I think it should be left in the hands of the Anæsthetic Department.

CASE RECORDS FOR THE OPHTHALMOLOGY AND OTOLARYNGOLOGY DEPARTMENTS

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THE question is, shall we as specialists keep records of our hospital cases? If so how thorough and of what type shall they be?

We must keep records and as anything that is worth doing at all is worth doing well, we must keep good ones.

What then constitutes a good record of our cases? If we bear in mind that our patients are first of all just patients with a special disease or complaint, not special patients, you will readily understand that we cannot afford to have any less thorough records than any other department in the hospital.

We cannot afford to take somebody else's word for the general condition of our patients, except if it be a colleague who is in a position and is willing to note his findings on the record and least of all can we afford to accept the word of the patients in regard to their general condition of health, for they usually do not know.

The reasons for keeping records are many. I will mention only a few.

The first consideration is the patient. We know that a patient who has a thorough record of physical findings and history will have had a thorough examination and questioning, because one hesitates to put down on paper findings he hasn't made as answers to questions he hasn't asked. We know that most mistakes made in diagnosis today are not from lack of ability on the part of the doctor, but because he has not investigated.

Our next reason for keeping records is from the medico-legal standpoint. Every case must be treated as a potential legal case. If any of these cases get into court it is likely to be a long time after we have cared for them, when our memory will not be so acute as to details. When the record is subpœnaed and brought into court, the nurses' bedside notes, no matter how good, and they are usually good, won't (to use an aphorism) cut much ice, but the things the surgeon in charge has written or approved will be of tremendous importance.

Again, some of these cases will come up for discussion in the staff meetings and here a good record is essential.

I wish to digress here just long enough to say that I know of no method by which the morale of the staff can be so improved as by this one of having a critical survey of the casualty list at stated intervals before the entire staff.

Again, these records form a ready reference if you should wish to review any part of your work,

prepare a paper, or compile statistics of any kind.

Also, they are a necessity to the hospital, enabling them to compile statistics, to institute a follow-up system, etc., and are also of use for subsequent admissions.

The next point is, who shall make these records? Preferably the surgeon in charge shall either write or dictate them. You will say that you are too busy and haven't time to do all this clerical work, but actually no one has a right to accept more patients than can be adequately cared for, and adequate care is not being given unless an adequate record is kept.

Or again you will say you are not general practitioners and therefore are not competent to make general examinations. However, most of our cases are referred and the one referring them, either the internist or general surgeon, should have his part of the record complete. There is no objection to the intern writing the history and making the general physical examination and this is generally done. In fact, I am sure this is the reason accredited hospitals today have good records, our interns are pretty competent. Each record should have a space for the surgeon in charge to note his approval of the intern's record. Remember, that after you have approved this record, you are just as responsible as if you had written it yourself. If the intern has put down findings that do not agree with yours, you must make the correction. The intern may still be right, but you are responsible for the case.

Shall we, as specialists, have special forms?

I resent the idea so often expressed that specialists are a queer lot, old maidish, and so on, and require a lot of special things about a hospital. Our patients require about the same kind of care as other patients, and record forms that suffice for general patients will do for us.

Blanks that have all manner of data printed on them so that things that seem essential may be checked off, seem to me unnecessary. Data that would be quite essential for one case would be wholly unnecessary for another. Besides, special blanks cost money to print and few hospitals can afford to be lavish with money, even in small matters like printing bills. Any plain sheet of paper will do, but in the interest of neatness and uniformity, a standard type of record should be adopted, one that will do for all patients.

We should have first of all a form for the history, at the top of which can be printed the summary to be completed upon discharge of the patient. This should show the patient's name, address, admission number, age, race, etc., a space for the tentative diagnosis, one for the final diagnosis, one for complications and additional diagnosis, and one for recording surgical operations. It should show the date of admission and discharge and the name of the surgeon. It should show the condition of the patient on discharge and should have a space for the approval of the surgeon. The rest of the form may be plain on which may be written the history.

The next sheet should be one for the physical findings and this may also be perfectly plain, having nothing but a space at the top for the name and address of the patient.

The next form should be a graphic chart for temperature, pulse, and respiration. Here is the only place where I think a picture is better than the written or printed word. A graphic chart of temperature, pulse, and respiration is much better than the written notation of these findings on the nurses' bedside notes.

There should then be a special form or forms for the various laboratory findings, another for progress notes, and last of all a form for the nurses' bedside notes.

A good plan and one that does not add to the cost is to have a different color for each form, as this makes them easy to identify.

These forms may be set up in any order that seems best, but each hospital should adopt a uniform method of setting up all records. Other forms may be added as seem necessary. I do not say you should be limited to the above few, but I do think that in the interest of good work and simplicity, the number of forms used should be kept down to the minimum. I may state here that a voluminous record is not necessarily a good one. Quantity does not spell quality.

I have purposely mentioned only the forms used in making up the patient's chart. The various forms necessary for the proper hospital accounting are purely matters of hospital administration and do not concern us as doctors.

The records should be in charge of a record clerk, supervised by a records committee, made up of members of the staff. It is their duty to examine all records, to see that they are complete, and to approve them before they are filed.

The clerk shall file the records numerically and chronologically and keep a cross index filed alphabetically and chronologically according to the patient's name, disease, and operation.

It has been my privilege to examine the forms used in a good many hospitals and I find nearly as many different types of forms as there are hospitals, but I hope to see the time when standard forms of a uniform size are adopted by all hospitals.

THE ORGANIZATION OF THE MEDICAL CLINIC

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A MEDICAL clinic properly organized strives to achieve three principal results: (1) to provide the best available treatment for the patients, (2) to afford all possible opportunity for the teaching of both undergraduate and graduate medical students, (3) to promote research in the field of clinical medicine.

In a very large measure these three aims dovetail into one another—the advance of one means the advance of all. It might be said, and it often has been said, that the best treatment can be given to patients without using them for purposes of teaching. That I venture to say is not true. Our experience in Philadelphia has demonstrated that where teaching is done patients receive the most thorough study and observation. Furthermore the intern staff is much keener in a teaching than in a non-teaching hospital, not to mention the fact that the best of recent graduates as a rule prefer internship in teaching hospitals.

What type of organization will best promote the three objects I have enumerated as the hospital ideal?

The first essential is unit organization, that is the setting apart of a definite ward, or wards, with its own clinical laboratory for the routine work of study and teaching. Several homologous units may be established, the number depending upon the size of the hospital. This type of organization has been in existence for many years in the large teaching hospitals of Vienna and Berlin. The number of beds in a division is not important except that it should not be too unwieldy. If these cases cared for are in the main acute, the number must be relatively smaller than if the chronic type of disease predominates. The beds should be divided either in equal or in unequal proportion between the two sexes, for I do not believe it wise to make separate units of the male and female wards.

A second essential is continuous service. The rotating service which still prevails in many institutions is a relic of a time when only the care of patients was aimed at by hospitals. It then made little difference whether a man served three or four or six months so long as some one was constantly on duty. Now, however, when teaching and research are recognized as legitimate functions of all public hospitals, everything speaks in favor of a continuous service. Such a service has the following transcendent advantages.

1. Teaching is uninterrupted.
2. If there are several co-ordinate services a certain wholesome rivalry is engendered.
3. If the head of a department is the proper type of man, he will give prestige to the service identified with his name and with his policies.
4. Problems requiring time and continuity can be undertaken and carried through.
5. The objectionable custom of holding three or four hospital positions and giving to each a few spasmodic months in the year, will cease to exist. A continuous service in one hospital precludes ward service in any other hospital. No man can look after more than one service with satisfaction to himself or to the institution.
6. A continuous service brings interns, nurses, and the chief into closer contact, which makes for better team work and creates an esprit de corps which is of immense value to the hospital and to the young doctors in their most impressionable years.

The following is a suggestion for a plan of organization of a medical clinic in a university or municipal hospital, based in part on schemes that are actually being worked out in some institutions, in part upon a vision of what might be.

At the head of the clinic is the medical director, who acts as consultant in serious cases in his own and in other wards, and should give most but not necessarily all of his time to the service. He should not have any private family practice, but might within narrow limits act as consultant within and without the walls of the hospital. His office should be in the hospital. He should be a man of vision and should stimulate and direct the research undertaken in his department and should do a moderate amount of teaching.

Immediately under the medical director are the visiting physicians. Their number corresponds to the number of units or services making up the medical division. Four services is probably the maximum into which the medical department of a large hospital need to be divided.

The visiting physicians should be men of wide clinical experience acquired in hospital, dispensary, or private practice, who are willing and prepared to follow an academic career. They should give one-half their time, or as much more as they desire, to the work.

The visiting physician acts as consultant in his wards, seeing the most interesting and most difficult cases, leaving the routine work to the younger men on his staff. He should organize his department or service as a more or less self-contained unit, associating with himself a number of men representing various specialties and scientific activities.

The men of each department or group are in immediate charge of the patients and direct and guide, in conjunction with men from other services, special clinics or departments such as metabolism, cardiology, pneumonia, nephritis, endocrinology, joint disease, asthma, etc. Some of these subordinate departments should do their work in special wards, others in the dispensary.

The visiting physician should be interested in research and should with his associates take up special problems agreed upon in general conference. He should do some teaching either at the bedside or in the amphitheater to undergraduate and graduate students.

Assistant physicians: Assistants to the visiting physician, whose number varies with the activity of the service, with the amount of teaching and with the character and quantity of research work, should be young men who have had at least two years general hospital training followed by (a) special work in a hospital, (b) training in a laboratory, or (c) training in private or dispensary practice where they have gained experience and have demonstrated ability.

The assistant physicians should be full time men on salary, part of which should come from the hospital, part from the budget of the medical school. Residence in the hospital is desirable but not obligatory.

Duties of the assistant physicians:* Assistants are in actual charge of the patients, co-operating with the interns in all particulars. They supervise the records, aid interns and students in their studies, and give instruction in history taking, physical examination, etc. Part of their time should be devoted to research on problems pertaining to clinical medicine. They replace the visiting physician during his absence.

One of the assistants should be specially trained in metabolic work, and should have charge, under the visiting physician, of the diabetic clinic and service of the hospital. One or more interns should be detailed to remain on this service for at least six months, and provision should be made for as many volunteer workers as circumstances allow.

*The name assistants is used, but many other terms may be employed, such as residents, resident physicians, etc.

Among volunteers may be counted graduate students who are taking advanced courses in clinical medicine.

The period of service of assistant physicians should be three years with the privilege of reappointment. Assistants should receive preferential treatment in case of vacancy on the visiting staff.

Interns: A service such as I have sketched would prove so attractive to ambitious interns that there would always be an overplus of applicants. Assuming that the service in the hospital totals two years, it should be so arranged that every intern would have an opportunity to work in the medical wards.

Those who are intending to go into general practice or into internal medicine, should have at least one year's service on the medical wards, while those who lean toward surgery or surgical specialties should have at least six months' medical training. On the surgical wards these time periods would naturally be reversed.

The number of interns depends on the character of the service. If acute, fifteen beds is about as much as one senior and one junior can look after.

Service on the medical wards for the one who selects the twelve months' term should include service on the special wards, metabolic, etc.

Interns receive board, lodging, and laundry of uniforms, but no salary.

It would be very advantageous to the hospitals and to medical education if all the larger institutions could be used for teaching purposes. If there are several Class A medical schools in a given city, the facilities of the municipal hospital should be open to all of them. To that end service in the hospital might be divided into units corresponding in number to the number of medical schools prepared to make full use of the hospital.

Appointment of visiting physicians and assistants should be made from lists submitted by the medical schools. It goes without saying that politics should not be permitted to enter into the making of appointments, and that all appointments, including those of interns, should be on merit and fitness only.

What I have said so far applies chiefly to metropolitan hospitals or to any large hospital in a teaching center. I do not know whether my duty in this symposium extends to a consideration of hospitals in smaller communities, but I assume that a few words on the phase of the subject will not be amiss.

The most important thing in a community

hospital is to eliminate the baneful influence of politics, both medical and lay. Dr. William Pepper, primus, used to say that ordinary party politics was no circumstance to medical politics, and I believe he was right. The medical administration of hospitals should be placed in the hands of the best elements of the local profession.

Next in importance is the purging of the hospital staff of all unethical practices so that only the highest ideals may prevail. It is unnecessary to go into details on this matter.

From the point of view of organization nothing perhaps exceeds in importance the clinical laboratory. Wherever there is a good modern laboratory the work in the wards is better done. The head of the laboratory should be a medical man thoroughly trained in technical details but also interested in clinical medicine and eager to cooperate with the staff in the study and treatment of difficult cases.

I have been in a number of small town hospitals where there is a good pathological department, and have been delighted with the careful study given to medical cases, often as good as that in our Philadelphia institutions.

The exigencies of the case do not permit unit service in community hospitals, but make it necessary to have a rotating service and usually an open hospital, that is one open to all qualified members of the profession. That naturally complicates organization but does not prevent good work. The rotating service in such hospitals in which there is no teaching has less objection than it would have in teaching hospitals.

The intern service, usually one year, has in Pennsylvania to be arranged in conformity with the laws of the State, hence the time devoted to any one branch is not long. It is therefore desirable that the intern, before he settles down in practice take either a special service in another hospital or courses in a graduate school.

The American College of Surgeons has done splendid work in raising the level of surgery in this country and in elevating the ethical tone of the surgical profession. An equally high service, if not a higher one, rendered by it is the standardization of hospitals, not so much with regard to outward organization as with regard to wiping out the glaring differences in the scientific spirit of hospitals which were so depressingly evident before the American College of Surgeons came into being.

STRUCTURAL REQUIREMENTS OF THE MEDICAL CLINIC FROM THE STANDPOINT OF THE INTERNIST

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IT IS a difficult task to lay down any general rules, or make any very definite statements, relative to the structural needs of the medical service of the hospital. Even if this were possible, the scope of the subject is so enormous that only the briefest mention of some of the major structural requirements of the medical clinic can be made in the space of time allotted to this paper. The nature of the clientele to be served, i.e., private or public; the type of hospital in question —teaching or non-teaching; the general plan of construction of plant, i.e., detached, semi-detached, or block in type—all are factors which more or less govern the physical planning for any department.

However, there exists one unalterable proposition —one *sine qua non* of hospital planning. Irrespective of the type of hospital, or the plan of its construction, that arrangement of wards and rooms is best which lends itself most completely and efficiently to the modern, scientific care of the patients treated therein.

By some this statement will be deemed unnecessary; by others, old-fashioned. Its justification lies in the fact that here and there has the idea been developed that the hospital may with impunity allow some other objective to supersede the chief reason for the institution's existence.

Moreover, no hospital planning is sound which considers beauty of architecture or sturdiness of structure of more importance than the careful arrangement of its units for the most efficient, economical, and time-and-step-saving care of the sick. It has been repeatedly observed that the hospital which is thus carefully planned will usually lend itself easily to medical teaching from its patients.

Now since none will dispute that the welfare of the patient is of prime importance, it appears reasonable to begin at his bedside, and working outward, to supply those scientific needs and practical utilities which must be found in the modern hospital of today. And, as we recede from the medical patient's bedside, facilities for

teaching graduate and undergraduate students will be found to fit easily into the picture without detracting in any measure from the comfort of the patient or the convenience of his attendants. For remembering that everything begins and ends at the patient's bed is one of the best methods of preventing not only the omission of any of the utilities, but also of shortening distances to service or scientific units. There are several general considerations which early suggest themselves. In outline these are:

1. The general shape, size, and location of wards and rooms comprising the medical suite.
2. Provisions for some degree of privacy for each patient, such as
   (a) Private rooms.
   (b) Semi-private wards for three or four patients.
   (c) Ward cubicles, formed of curtains, wood, metal or glass.
   (d) Isolation rooms for dying or disturbed patients.
   (e) Added special small ward facilities for pneumonia, the fevers, or for the semi-contagions, such as erysipelas, etc.
3. The extra ward units comprising the department.
   (a) Service units, such as diet kitchens, and convalescent dining-rooms, linen and supply closets, toilet and enema, and bath-rooms.
   (b) Scientific units, such as departmental or ward laboratories, laboratory for electro-cardiographic and basal metabolic work; the division of metabolism and its laboratory, etc.
4. Added requirements for teaching hospitals, such as
   (a) One class-room, with blackboard, and facilities for darkening for each teaching service. Amphitheater facilities are very useful for larger classes.
   (b) A consultation room, or office, for the chief of staff and his colleagues.

In regard to the general location or placement of medical wards, few will dispute the wisdom of placing these units so that each bed will have the maximum of air and sunlight each day. Probably wards lying north and south, or northeast by southwest will best meet the requirements, while those running east and west will be much less likely to do so. It is believed by many hospital administrators that wards which comprise the full width of the building or wing are preferable to wards separated by a corridor, and which allow for the ingress of light and air on but one side.

As to the shape of the typical medical ward, there is much to be said. Square wards, or those with all four dimensions nearly equal, may result in every patient's bed being nearly an equal distance from the nurse's station, and thus the time and strength of the nurse being spared, she will be able to more efficiently care for more patients. But ventilation and the entrance of sunlight is made more difficult, and for this reason this shape is not favored by the writer. A rectangular-shaped ward, not less than twenty-five or more than thirty feet wide, is more difficult for the nurse, perhaps, but lends itself more easily to proper ventilation. If the service and toilet rooms are properly located, nursing convenience need not be seriously sacrificed.

There are so many factors which enter into the question as to the proper size of wards that each statement must be made with strong qualifications. The smaller the units, the more expensive to build and to maintain will the medical departments be. With fireproof building construction today approximating a dollar a cubic foot, and with the maintenance for each bed rapidly mounting, saving in both these items is usually most necessary.

In the private suite the size and shape of rooms require no little consideration. It is a good plan to scale the private-room furniture on the plans before building, so that doors, radiators, and washbasins may not be found to be located where articles of furniture should be placed. A room 10 feet by 12 feet is usually ample for high-class private service.

If unlimited funds are available for construction and endowment, the ward units should not be greater than a ten or fifteen bed capacity, allowing from 1,000 to 1,500 cubic feet of air space for each patient. In most public hospitals this size is not practicable, and oftener the ward is constructed for a maximum of twenty-five patients, with about 800 to 1,000 cubic feet of air space for each bed. More liberal allowances should be made in the pneumonia ward.

Provision for some degree of privacy for ward patients is always a wise step. One plan, which is often found to be useful and economical, is to employ wires and curtains to form small, individual cubicles. A disadvantage of this scheme is that these wires are difficult to keep taut, and become unsightly when they sag. Outside of the added comfort to the patient, this arrangement avoids the delay and noise of dragging ward

screens across the floor when the chief or the resident physician desires to examine the patient.

No patient should die in the ward. When a critically-ill notice has been dispatched the patient should be moved to a small room, where relatives may visit at will, and the ward patients be spared the view of weeping relatives, or the later, always gruesome, preparation and removal of the body. The same type of room mentioned above (which need not be larger than 8 feet by 10 feet) is useful for the care of delirious, incontinent, or otherwise distressing patients.

Little description need be added to the above-made mention of the advisability of having separate, especially constructed wards for pneumonia, typhoid fever, etc. The danger of infecting other patients, and the necessary nursing methods peculiar to these diseases justify their presence. A cold and a warm room for sthenic and asthenic pneumonias, respectively, and a warm room for examination of the former type of case, are *all* most necessary details of this construction.

Too many medical clinics are constructed without considering that the absence of adequate and convenient service, and scientific units, not only hamper the efforts of the physician and the nurse, but actually, by so doing, make proper treatment of the patient impossible.

Diet kitchens must be adjacent, but not so near to the wards as to annoy the patient with odors of cooking or the rattle of dishes. Dumb-waiter service should be present. A small departmental dining-room for convalescent patients—especially where any degree of ambulatory chronicity exists—is necessary. Linen rooms should be commodious and numerous. If room and help are available, no enemas should be given in the wards. A small dressing-room, or minor operating room, is of the greatest use for such minor medical surgery as chest, abdomen, and spinal tappings, and for blood letting, transfusions, etc. The tranquillity and morale of the medical ward are much disturbed by the outcries of a patient, who, while only undergoing a minor procedure, convinces his fellow-patients that he is being roughly handled.

The nurse's utility room should be near the wards, or centrally located for several wards; generous in size; well supplied with closets and worktables. And here, usually, is placed the icebox, for the preservation of specimens.

The ward toilets should be so placed that the public hallways need not be used by nurses or orderlies as passageways in conveying bedpans for emptying.

The proper location of ventilated closets for storing and drying of brooms and mops, and of janitorial supplies, gladdens the heart of the nursing and household staffs.

The scientific units should be most carefully worked out. No medical suite is complete without an electro cardiograph, and each ward should have one or more stations, with the necessary individual telephone plug-ins, etc.

A departmental laboratory for minor procedures seems essential. Often blood chemistry studies, as well as the usual urinalysis, blood and spinal cell counts are needed on short notice, and can best be done here by a properly-trained junior intern. Basal metabolism studies, as well as the estimations of carbon dioxid tension in the expired air are necessary to the clinician today, and a properly located and equipped station in the medical suite is required for this purpose. The combination of this function with the electrocardiographic room does not seem to work well.

That patients, suffering with diabetes, hypertension and toxic goiter, can not be wholly successfully treated in the general ward seems proven. There must exist in the medical clinic, then, a separate division, with one or more small four- or five-bed wards, or, if a larger ward is used, one divided by metal, glass or wood partitions into smaller cubicles or rooms, for treating these conditions. The dietetic laboratory for this division should be adjacent to the ward, or wards, and, if possible, separate from the general departmental diet kitchens.

If funds and room are available, the isolation of special study groups of patients, such as cardiacs, is not inadvisable.

Bedside study, by a group of undergraduate or graduate students, is, of course, of the greatest importance. However, if several class-rooms are available in the medical department of the teaching hospital, much ward confusion can be avoided. Here, at least, can the stated case reports by the students, and practical demonstrations by the teachers be held. The "classical" clash between teaching and the serving of meals can be avoided by only delaying the dinner of two or three patients, if the class hour happens to coincide with the hospital time for serving food. Lantern demonstrations, exhibition of specimens, and blackboard talks, which are impossible in the wards, are practicable here.

The Out-Patient Department is an essential constituent of the medical clinic. It seems most economical, as well as efficient, to construct this department so that its rooms can be utilized for several types of clinics at different hours. Small

examination rooms, with running water, and good light, which are separated by sliding doors or partitions, will enable the chief of dispensary to get the greatest number of service hours out of the least amount of floor footage. The setting aside of certain rooms, with special equipment for some particular clinic, which meets but twice or thrice a week, appears to be an extravagant use of space.

The Out-Patient Department should not be stinted as to light and air; should possess commodious waiting-rooms, and proper clerical and social-service accommodations, and ought to be not too far removed from X-ray, dental, laboratory, etc., facilities.

There are some final general considerations which deserve mention. The station for the head nurse of the department should be placed so that it commands a view of most of the corridors, and at least some of the departmental wards. It should be near the elevator or stair entrance, so as to control visitations to patients. Corridor floors should be of terrazzo, with rubber center runner, if possible. Ward floors may be constructed of maple or rifted pine, or terrazzo, with rubber or linoleum inset between the beds, or the ward's long axis. The baseboards of wards and rooms should be sloped at an obtuse angle to the floor, to prevent beds being pushed into the walls. Window sills should preferably be not higher than thirty inches from the floor. The lower sash may be constructed higher than the upper, with an inset into the sill, so that some ventilation can be secured between the lower edge of the upper and the upper edge of the lower sash, when the window is not open at the bottom.

Frequent base plugs for drop lights, solution heaters, portable X-ray machines, ophthalmoscopes, with rheostats, etc., are most useful. Night baseboard lights, which are wired separately, are sources of much comfort to both nurse and patient. Running water in every ward is a convenience of the utmost importance. Bed-pan washers and sterilizers, blanket and solution warmers, and a hot room for drying pack blankets, with wall ring for wringing these blankets, are essentials; while built-in medicine closets and supply cabinets, supplied with Yale locks, have proven most practicable.

Finally, no hospital department should be constructed without making some provisions for the application of the principle of heliotherapy in suitable cases. Roof space is often best adapted to this purpose but sun porches and the tops of connecting corridors often make acceptable substitutes. If a department of physiotherapy is available, the use of the sun lamp is often a good substitute for solarization.

THE RELATION OF DEPARTMENTS TO THE MEDICAL CLINIC AS A WHOLE

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IN CONSIDERING the relation of the departments of a medical clinic to the medical clinic as a whole, it has seemed to me that it might be profitable to consider some of the weaknesses which tend to creep into such an organization. There is no difference of opinion as to the desirability of close co-operation in the various activities of the medical clinic. There is, however, considerable difference of opinion as to how far the clinic can be split up into departments and still retain unified co-operation. There exists at present a menacing tendency to split off from the general medical clinic too many seemingly important activities and to create for these activities special departments under the direction of men out of touch with the general medical clinic. In some instances the creation of special staff positions, such as syphilographer, endocrinologist, cardiologist, and a host of others, has only served to emphasize the independence of departmental activities.

I do not wish to be misunderstood. I am perfectly aware of the advantages of intensified effort in the study of groups of patients. I am also aware of the advantages of partial segregation of patients in such a study. On the other hand, the creation of multiple departments tends toward undue specialism in the general medical clinic. The menace of undue specialism is the tendency to lose sight of the individual patient as a whole and to focus attention on that part of him in which the department is interested.

Some years ago those who became interested in the tuberculosis problem saw the necessity for intensified effort—saw the possibility of reducing human suffering by creating special clinics for the prevention, study, and treatment of this disease. You are familiar with the tuberculosis program

and the splendid results which have been obtained. You may not be aware, however, that among the most enthusiastic workers in the development of this program was a group, fortunately in the minority, who thought that tuberculosis was so unique that not only separate clinics and separate wards, but separate professorial chairs were needed in the medical schools. This same group in a measure was responsible for the spread of the false concept that the diagnosis of tuberculosis was so difficult that nothing short of an uncanny skill would avail in the recognition and interpretation of an endless variety of percussion notes, breath sounds, and râles. Such skill was supposed to repose only in those who were identified with the special tuberculosis clinics. The day was finally won by those who conservatively asserted that for the average patient, an average skill conscientiously combined with average wisdom was all that was necessary and that the so-called "tuberculosis specialist" was really a misnomer. It was found that from the viewpoint of diagnosis especially, the man best able to cope with the difficulties of diagnosis in tuberculosis was the all round medical man in contrast with the one who saw only the special cases of the tuberculosis clinic. As a matter of fact, the tuberculosis problem as originally viewed was exceedingly narrow, but as now viewed comprises in its preventive aspects the whole problem of public health. As I view it at the present time, tuberculosis is drifting back into the medical clinic, or clinics closely affiliated with the general medical clinic where the special knowledge obtained in special clinics can be more widely applied.

The close relationship which the tuberculosis clinic should bear to the general medical clinic may be illustrated by our experience at the Jefferson Hospital. In 1913 the Department of Medicine, under the direction of Dr. Thomas McCrae, felt the need of taking a more active interest in tuberculosis work than the limited facilities of the medical wards and out-patient department afforded. Unfortunately, the existing hospital space could not be extended for this purpose. The Board of Trustees of the hospital acquired suitable buildings about one mile away. The department was organized as a Department for Diseases of the Chest under the direction of the head of the medical clinic. Although an outlying hospital unit, its staff, and patients were an integral part of the medical clinic. It has been operated for twelve years as one of the interdependent closely affiliated departments of the medical clinic as a whole. The physicians in attendance are actively engaged in general medical practice with a special, although not exclusive interest in tuberculosis. The patients are studied without preconceived notions that because they happen to be sent into the tuberculosis division, they are in all likelihood tuberculous. They are studied from the viewpoint of the individual as a whole and with the constant reminder that patients frequently have more than one disease. As an example of the viewpoint of those who regard departmental activities as necessarily restricted, I wish to quote an absurd question which I was asked on one occasion: "Does your laryngologist specialize in tuberculosis of the larynx?"

At the present time a tremendous effort is being directed toward the prevention and relief of heart disease. Heart disease clinics are springing up over night. Heart disease specialists are being created. Heart disease for the moment would seem to have no right in the general medical clinic. The other day a social worker was heard to say to a capable physician in the medical clinic, "Don't you think it would be well to refer the patient to the heart clinic?" The menace of this sort of thing is the assumption that all knowledge reposes in a special department. The social worker's viewpoint is pertinent. Laymen, as well as doctors, are having their visions distorted. The thought that came to my mind at the time was, is there the same enthusiastic effort to refer patients in the departments back to the general medical clinic for study in the light of the composite experience of that clinic. Perhaps a still more striking illustration is the menace inherent in the emphasis of special syphilis clinics. Here again, I do not wish to minimize the importance of the study of syphilis, but I do wish to emphasize the importance of subordinating the activities of that clinic to the medical clinic as a whole. As far as I am able to determine, many syphilis clinics are intent principally upon thoroughly treating patients. Laudable as this may be, it should be subordinate to that activity of the general clinic which has for its purpose the study of the patient prior to treatment. I know of one instance in which a patient was treated for four months in a syphilis clinic and who, finally drifting into the general medical clinic, was found to have far advanced tuberculosis with tubercle bacilli in his sputum. During the entire time of the syphilis treatment no examination of the chest or of the sputum was made. I suggest that if syphilis clinics are to continue without criticism, their activities must be restricted to the care of patients studied first in the general medical clinic, and the treatment administered only by those who are attached to both clinics.

You may wonder whether I believe at all in the independency of any hospital department in the usually accepted meaning of the term independence. Of course I do, and let me illustrate. The bronchoscopic clinic as developed by Chevalier Jackson is essentially an independent clinic in its organization and personnel. Its attachés are highly trained men who work in a field in which the highly technical problems involved require whole time devotion. In spite of the independent character of this clinic, its workers offer co-operation and seek co-operation to the fullest extent. Before bronchoscopy is considered, the patient is studied by internist, roentgenologist, and laboratory worker. Hours of preparation precede minutes of manipulation. The bronchoscopic clinic retains an independent status because of the unique character of its work, the special researches, which are being conducted, and its relation to the surgical and other non-medical clinics. The fact that the department will not undertake to do a bronchoscopy until the patient has been thoroughly studied commands co-operation. Departmental barriers are unknown when a patient directly or indirectly comes in touch with Jackson's bronchoscopic clinic.

I should like to crystallize my remarks by saying that I believe that the time has come when every effort should be put forth to maintain the cohesion of medical clinic activities. We should frown on those attempts to subdivide the activities of the medical clinic by creating special departments unless for good and sufficient reasons. Subdivisions of activities are of importance, but seldom require the creation of special departments. Men who are engaged in special activities and detach themselves for a while to work upon a given problem should return from time to time to the general medical clinic to regain their balance. Perhaps they launch forth again on the same problem or on some other problem, but constantly keep in touch with the central organization, the general medical clinic. They soon learn that there is no need for creating a new department for every new activity. They perhaps realize that in hospital organization and administration it is sometimes more difficult to drop a department once it is formed, than it is to create it. They frequently find that special activities which for a short period of time seem to require department organization, sooner or later can be handled in the general medical clinic.

The close co-operation of interdependent, rather than independent, departments in the medical clinic as a whole is fostered best when administered by one or more broadly trained directing heads whose associates and subordinates have an abiding interest in general medicine. Such a group will divide itself for purposes of investigation along special lines, but such a group will have little use for the creation of endless departments.

THE RELATION OF THE SPECIAL DEPARTMENTS OF A HOSPITAL TO CLINICAL MEDICINE

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LIKE most problems, this one cannot be included within very definite and rigid bounds. If ever circumstances alter cases, they certainly do so in the application of general problems to hospital efficiency and one hospital's meat may easily be another hospital's poison. In an attempt to narrow the field to attainable limits, therefore, I shall ask you to assume that these remarks are meant to apply chiefly to a teaching hospital of average size and first rank, unless obviously or specifically mentioned as having a wider application.

Unless the hospital, like Minerva, springing fully armed from the head of Jove, is beginning *de novo* with ample facilities throughout, the relations of the special departments to clinical medicine will be at least partly determined by the existing physical layout. Disregarding this limitation, however, it seems important that many of them should be in central positions, possibly in a central administration building, or in positions easily reached from the wards. The Pathological Museum of McGill University—a good example of this principle—owes no small part of its usefulness to Dr. Adami's wise decision to place it so much in the middle of the building that one almost had to go through it and therefore did so frequently and frequently stopped on the way.

The most essential item in promoting an efficient relation between special departments and clinical medicine is the existence of enthusiastic co-operation. It is trite, but none the less true, that better results are obtained from a poor system, which all concerned are trying to make a success, than from the best system in the world, executed indifferently. As this need for co-operation will doubtless be admitted by all present, there is no need to dwell upon it further at this point.

A word here as to a subject which should never come up in a smoothly running hospital staff, namely, the right to use clinical and pathological material for publication. Just as the day has passed forever when the meager laboratory work was conducted by some unfortunate junior in a cellar room, not good for anything else, so the clinician now recognizes the "laboratorian" as a colleague on an equal footing. While each should have a prior right to the information gained in his department, there will naturally be a free interchange of courtesies between them, or if both are equally concerned, a joint publication would naturally be indicated. A questionnaire launched a few years ago showed that this was the situation in practically all of the best hospitals, though usually controlled by few or no staff rules. In considering the various special departments, the administrative, nursing, and dietary staffs are outside the scope of these remarks. There are many here better qualified than I, who can and, I hope, will discuss their obvious importance in helping clinical efficiency. The clinical laboratory naturally comes next to my mind, not only because I happen to be engaged in laboratory work myself, but more because it often is, as it may well be, the center in which scientific problems are apt to be discussed and matured and from which the scientific spirit should radiate to the more practical and appointment-harassed clinicians. The organization and duties of the laboratory must vary greatly in various hospitals —in the Philadelphia General Hospital the group comprises five autonomic laboratories (clinical pathology, biochemistry, bacteriology, morbid anatomy, and radiology), worked by about 50 persons—but the principle remains the same, that the laboratory is there not only to furnish information required for the proper study of the hospital's patients and to aid its personnel in equipping themselves for a life of medical service, but equally to help future patients of its own and other hospitals by adding to the best of its ability to the sum of medical knowledge. A wise hospital management will therefore be as liberal as possible in the equipment and maintenance of such a center, which should be prepared as far as possible to comply with all clinical requests both of a routine and investigative nature, as well as carry on its independent problems. With a proper head of the laboratory, the disposition of the available budget from this point of view should be left entirely to him. In fact it is desirable to leave his salary budget flexible to a certain extent, so that juniors can be secured at a lower figure, which can be increased as their growth demands, or the positions be rearranged with changing conditions.

Although the practice is not followed as yet

in our own hospital, I consider it preferable to have small ward laboratories scattered throughout the hospital, where the simpler blood and urine procedures can be performed by the junior intern of the service. This not only allows the test to be performed more expeditiously and with less red tape, but preserves for the examiner the necessary human interest in the patient. Fewer unnecessary tests are asked for, and the work is necessarily done more intelligently and enthusiastically. There is only one possible preference between the "urine" intern, on the one hand, doing over one hundred urines daily from patients he has never seen, and on the other, the same work being done by eight to ten junior clinical interns, examining the excretions of patients about whom they are informed and interested. There will always be some urine and simple blood work for the central laboratory, from emergency wards, dispensaries, smaller services, and the like; and if the ward interns have already had their laboratory service, as is most desirable, they will have thus acquired the requisite experience. The other objection to decentralization is that there is no supervision of the interns' work, which provokes the obvious reply that the clinical chief should be sufficiently well informed and in close enough touch with the situation to give more adequate supervision, so to speak "in his stride," than is possible for the laboratory chief who is in touch with only one-half of the situation. The more complicated procedures, on the other hand, should and probably must be done in the central laboratory for obvious practical reasons. Incidentally, closer touch with the wards is thereby promoted.

What should govern the number of tests done on a given patient? Surely not only those should be requested that are directly indicated by the patient's signs (as I have heard more than one able clinician maintain); and just as surely not all those that might conceivably throw some extra light or be included in a really complete study of the case. This latter would be practically impossible, even in our research hospitals de luxe, but also cannot surmount the difficulty that what constitutes a complete study today will probably fail to do so tomorrow. A middle course must then be steered, which will vary according to circumstances. I personally would like to see the error rather on the side of too careful rather than too cursory a study. What is more maddening to a later student of the case than to find that the key to the problem or its usefulness as a study is absolutely lost by the failure to perform some relatively simple test at all or perhaps at the "psychological moment." On the other hand, what is now known as a "careful study" certainly includes many tests which have consumed time and money without any obvious return and tends to encourage the pernicious and growing habit of "waiting for the laboratory reports." Here is surely one item for discussion from the floor.

I hope that I shall not be misunderstood as assuming a "highbrow" attitude for the laboratory man when I urge the need for the clinician to have a better acquaintance with laboratory methods. I am referring to the vicarious pseudo-student, who builds up an extensive study of a case on numerous and often pointless examinations made by others at his request—this problem must be met in other ways—but rather to the well meaning enthusiast who through lack of familiarity with laboratory methods, asks for tests that can serve no purpose or places wrong interpretations on the reports made. For this reason it is highly necessary that interns should acquire a first-hand intimate acquaintance with the workings of a laboratory—not as a training for such work, which few of them will ever take up and then will have to relearn—but so that they can make proper use of it hereafter and properly evaluate the reports they receive.

The postmortem service, rightly considered by progressive hospital authorities to be an important index of hospital efficiency, demands the constant support of the clinical chiefs of all departments. I have spoken elsewhere[1] of the need for autopsies and how best to obtain them; but will repeat that probably the most important item is the attitude of the clinical chief in emphasizing their importance to students and interns and encouraging and helping the latter to get the necessary permits. At Blockley we were able to raise the autopsy percentage in two years from 15 to over 40 per cent and even 50 per cent, but have found that the slightest relaxation of attention and effort is at once followed by a very noticeable drop in percentage. In other words, retrogression is even easier than progression in this problem, as in many others. It should be hardly necessary to add that the autopsy findings should be made as valuable as possible to the clinician. He presumably wants explanations as far as they can be made by structural changes—not only of the cause of death but of the various symptoms observed—and this can best be obtained by the presence of himself and "retinue" during the autopsy or by an informal demonstration and discussion immediately after. If this

[1] Krumbhaar, E. B., J. Am. Med. Ass., '23, 80, 1682.

has proved impossible, a prompt report of the main findings should reach clinician and intern before the story has faded in their minds. We therefore routinely send a copy of the "front sheet" (i.e., clinical, bacteriological, and anatomical diagnoses) to both chief and intern within forty-eight hours of death, believing that the absence of histological confirmation is more than made up for by the celerity of the report. Some otherwise normal individuals, I know, believe that autopsies are often unnecessary. I hope there will be time to start a little argument about that today.

Almost as important is the maintenance of more formal clinico-pathological conferences between the clinical and pathological staffs. The form that these will take will naturally vary greatly in different places; but the fundamental principle I believe still remains true that there is still much of scientific value to be learned from the intelligent correlation of clinical and post-mortem findings (*pace* physical chemists and other equilibrists) and that this exercise should always be an important part of the individual medical man's development. If anyone here thinks this is better handled by the clinician alone or is "old stuff" that should be dropped, I hope he will give his reasons after I have finished.

The same ideas apply to the pathological museum. One has only to visit a London teaching hospital to see how much we neglect this feature in this country and how much valuable knowledge is to be obtained from the proper use of a hospital museum by student, intern, and chief. If for a given hospital the university pathological department uses all this material, then co-operation should be so close that the clinician can readily obtain specimens to aid in the elucidation of his clinical material.

Every hospital should have its medical library and the less accessible other medical libraries are, the more it should be favored. Good current medical journals and reference books are as much part of the progressive doctor's tools as are instruments and reagents and the journals at least have the advantage that they are investments which do not depreciate in value. As usual, Osler has put the correct answer in a nutshell: "To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all." If the services of even a part time librarian can be procured, she can make herself useful to the staff in many ways besides the mere care of her books. It is truly astonishing how much an enthusiastic and tactful person can do in this capacity toward helping or even stimulating the staff to keep themselves and their hospital in the front line of progressive efficiency.

Of the special technical departments, the Roentgen-ray has so completely justified itself in an ever-expanding sphere of usefulness that it is now considered necessary in even the smallest hospital. How this adjunct can best be utilized will, I hope, form one of the items for discussion from the floor.

About electrocardiographic and metabolic divisions there is probably more difference of opinion. I am in favor of both being developed wherever possible. Not only does the electrocardiogram continue to furnish evidence of clinical value about the patient's heart which is not obtainable in any other way, but like the laboratory itself it tends to offer a rallying point for those interested in or anxious to know more about the developments and applications of modern cardiology, nor are its advantages restricted to the medical wards alone. While most of the work will naturally be on medical patients, so that the heart station should preferably be near them, yet the study of patients from other departments should always be encouraged, and if possible most or all of the wards should be wired —and properly wired—so that, if necessary, records can be made without moving the patient from his own bed or ward. Here, as in most laboratory tests, I would like to emphasize the added value that comes from repeating the same test on a given individual in different stages of the course of his disease. If a few beds can be put at the disposal of the cardiologist (who is often already a junior on the medical staff), added interest should develop on his part, to the greater benefit of the service at large.

To anyone who has been in close touch with a hospital before and after a metabolic division has been established, further comment is unnecessary. Only there can the diabetic be properly studied and educated to participate in his own future care and only there can proper metabolic study be made in the numerous diseases in which this is indicated. I think that most will agree that an important feature of the metabolic division should be the habit of taking in for temporary special study from other wards patients who at the end of the study are returned to the original service with indications for prognosis and treatment that could not otherwise have been obtained. During such study, however, in the majority of cases the patient should be under the complete control of the metabolist.

One might object that a hospital such as I have indicated would be like a dog with many tails and the tails wagging the dog, but I have no such picture in mind. The patient and his physician will always be the two all important factors, but there is also no question but that the physician's usefulness can be greatly increased by a proper use of available adjuncts. I hope that these remarks, which after all contain nothing new and little, I fear, that is even interesting, may have trod on the toes of some adverse opinions with sufficient force to provoke a discussion which is bound to bring out information of more value.

STAFF CONFERENCES — GENERAL AND DEPARTMENTAL, AND THE RELATIONS BETWEEN INTERNAL MEDICINE AND OTHER CLINICAL SERVICES

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THE necessity and importance of intelligent co-operation between the various elements of the staff in the efficient and successful professional conduct of any hospital is too axiomatic to require discussion. The important problem of today is to devise the ways and means of bringing about such co-operation and effective "team work" among the medical and surgical personnel that are associated in our hospitals.

One of the methods of accomplishing this result, that has not only been suggested, but that has been insisted upon by those who have concerned themselves with hospital standardization, is the "staff conference." This term, although rather arbitrarily defined in "the minimum standard" that has been laid down for approved hospitals, experience has shown is susceptible of considerable elasticity in interpretation. This is obviously due to the fact that the size, frequency, scope, and character of a staff conference must vary with the type of hospital concerned, its location, and the make up of its professional staff. For example, a staff conference suitable to a small rural hospital, the staff of which is not highly specialized and is not engaged in teaching, might be both unprofitable and ill-adapted to the needs of a large city hospital with a staff of specialists largely concerned in the academic aspects of medicine. It is clear that if staff conferences are to be successful, they must be so designed as to stimulate the interest of, and prove of value to, the particular hospital staff concerned. Failure to fully appreciate this has resulted in the indifferent success that some staff conferences have attained in the past.

The first decision to be reached in planning a successful conference is who shall participate? Granted, that every member of a hospital staff in some way should be brought into regular conference with his or her associates, the question is whether all members of the staff representing different departments, should meet together or whether the separate subdivisions, such as medicine, surgery, otolaryngology, etc., should meet independently in departmental groups. In general it may be said, that in the smaller hospitals, especially those in which of necessity the interests and activities of the members of the staff are not too rigidly specialized, it is advisable for the staff as a whole to meet in periodic conferences. The same rule is applicable even to those large hospitals in which each of the various services is under the direction of a single head, with comparatively few subordinates responsible to each of these heads. On the other hand, in such hospitals as some of our large teaching hospitals, or the great municipal institutions where the various services are under the supervision of many chiefs, meetings of the entire staff, which frequently numbers scores of physicians, prove both unwieldy as well as tedious, to a fair proportion of those who attend them. In large hospitals with well organized and extensive special departments, experience has shown that departmental conferences alone have proved successful. It is impossible to expect a group of men who are devoting their entire time to surgery, to manifest much interest in the problems of the internist or the neurologist. Conversely, it is unlikely that the latter will evince much enthusiasm over the intricacies of surgical technique, or otolaryngological procedure. As a practical fact, undesirable though it may be, it must be admitted that the most successful staff conferences that are held in large hospitals with multiple services, are the ones that are participated in by those whose clinical interests are similar or at least allied. Obviously the pathologists, roentgenologists, etc.,

who come in contact with all services may with propriety take part in the various departmental conferences.

Of no less importance is the question as to the type of subject that should be considered at staff conferences. Broadly speaking, the hospital staff is concerned with two sets of problems, on the one hand, those that have to do with the administrative aspects of the professional work, and on the other, those which are purely clinical, which deal with the medical and surgical problems presented by the material that passes through the hospital. It has been suggested that at staff conferences both types of subjects should come under consideration. Here again in hospitals of but few beds, and with a comparatively small staff, such a policy may be advisable. Personal experience would indicate, however, that at least in hospitals of any size, it is not advisable to attempt to discuss administrative details and purely medical problems at one and the same conference. The two sets of problems are quite dissimilar, and if discussed at the same meeting are prone to detract from each other. The administrative problems that concern the professional work of the hospital, fall within the province of the major staff rather than the staff as a whole. They can be more quickly and more satisfactorily settled by a small group than by a large. Indeed, in many hospitals it has been found expedient to have administrative matters handled largely by an executive committee appointed from the major staff. On the other hand, the clinical experience of any hospital should be made the concern of every member of each department or of the whole staff, as the case may be. It would seem desirable, therefore, to separate rather definitely the consideration of administrative from purely clinical problems. The former should be made the subject of free discussion at periodic meetings of the major staff, or an executive committee appointed from that staff, always acting in close co-operation with the trustees or managers of the hospital, or their representatives. Whereas, the study of the hospital's clinical material should be considered at a separate meeting held preferably each month, and possibly designated as a staff *clinical* conference. Such a conference should be participated in by all of the staff, general or departmental, according to the size and organization of the hospital. In this way controversal subjects of purely administrative interest may be eliminated from conferences, the proper function of which is the analysis of clinical experience.

The type of discussion that should engage the attention of a staff clinical conference is a matter of far-reaching importance. After having attempted to organize and conduct conferences along various lines, the writer states unhesitatingly, that any staff clinical conference that resembles in its program the usual medical society meeting is doomed to failure. This is true at least in a large city and in any medical center where the number of meetings of medical organizations is discouragingly large. It is unreasonable to expect the busy members of a hospital staff to attend periodic staff conferences that offer them nothing different from the symposia and clinical papers that are heard at society meetings. The success of a staff clinical conference depends in large measure upon the willingness of all those present to participate actively. They must be essentially informal and open discussions of the clinical material presented. They are obviously not the place for the formal presentation of prepared papers, nor is it the intention of those who have so earnestly advocated staff clinical conferences, that they should be. The object of these conferences is to give the staff of the hospital an opportunity for periodic appraisal of their clinical experience.

The most effective way of maintaining interest in staff clinical conferences and at the same time of compelling attendance upon them is to devote them largely or entirely to a critical analysis of the deaths that have occurred during each month in the hospital as a whole, or in its various departments, as the case may be. There is no more wholesome or effective stimulus to thorough study, careful management, and accurate diagnosis of cases, than the knowledge that whenever a patient dies, those in charge are to be called upon before an open forum of their associates to present the essential features of that case and, if necessary, to defend their conduct in its management. When the clinical findings can be checked against the results of an autopsy, such discussion becomes highly illuminating and at times equally humiliating. In conferences of this type, full discussion and friendly criticism emanating from the youngest as well as from the most experienced members of the staff, should be encouraged.

Plenty of illustrations of the way in which such conferences make for the more careful study and management of clinical material could be readily cited. Suffice it to say that in hospitals wherein such a method had been tried, the results have not only been helpful to the staff, but the ultimate object of these conferences has been attained, namely, the more accurate study and successful management of the patient.

Regardless of the methods that may be adopted for the organization and conduct of staff clinical conferences, they can never be successful unless some one can be found on the hospital staff with sufficient enthusiasm and energy to vigorously direct them. It is admittedly an onerous and time-consuming task to preside over and to supervise the details of these conferences. This duty can rarely be relegated successfully to a subordinate. Some senior member of the staff must have sufficient interest to give up the time necessary to organize and personally supervise such an undertaking. Without having adequate leadership, staff clinical conferences cannot hope to be long lived nor successful.

Such a leader should be vested by the staff with adequate authority to have absolute control over the programs and to compel attendance and participation. No staff conference is worth while unless it is fully attended. It is unreasonable to expect interns and junior members of the staff to attend conferences in which their chiefs are conspicuous by their absence. If the senior members of the staff attend and take an interest in the staff conferences, there is never any difficulty about the attendance of the more subordinate members. The moment that those in charge of the hospital services exhibit lack of interest, disintegration of any clinical conference becomes rapid and complete. So long as staff clinical conferences are conducted in such a way that each chief knows that he is to be held accountable by his colleagues and associates for the entire conduct of and all that happens upon his service, attendance is apt to be uniformly good.

Attendance upon clinical conferences and interest in them is much greater in those hospitals where the staff are on duty continuously, than in those where they are active only a few months out of each year. During the time that physicians are not on duty in a hospital, and consequently have little interest in and no responsibility for any of the patients, their enthusiasm for the various staff activities is apt to wane. This furnishes an added argument in favor of continuous as against interrupted hospital service. Another factor which militates against regular attendance upon staff conferences is the multiplicity of hospital affiliations with which too many physicians are blessed, or perhaps better, cursed. When doctors can devote all of their time, energy and attention to work which is concentrated in a single hospital they will not only accomplish more for that hospital, but obviously they will be in a position to take a greater interest in the activities of that hospital staff, than when their energies and time are diluted three or fourfold as the result of affiliations with a number of institutions. The most successful and profitable staff conferences with which the writer is familiar, are those which are being carried on in institutions where the direction of the services rest in the hands of a few who are on continuous duty throughout the year, and whose entire interests and attention are centered in one hospital.

To recapitulate, therefore, it is believed that staff conferences furnish a useful and important means of contact between the various members of the staff of any hospital. Whether these conferences are general, including the whole staff, or merely departmental, depends entirely upon the size of the hospital and the completeness with which it is organized. The larger the hospital and the more thoroughly specialized its departments, the more difficult it is to hold general staff conferences and the more useful the departmental ones become. Staff conferences in which executive problems are to be dealt with, should be conducted by the major staff alone and should be divorced from the general clinical staff conferences which are devoted entirely to an analysis of clinical material which passes through the hospital. These clinical conferences should in no sense attempt to fulfill the functions of a medical society, but should be given over to some form of periodic study of the medical and surgical experience of the staff. As a method of increasing interest in them and making them most useful, it is suggested that they be devoted to a critical study of the deaths that have occurred on every service. Their success depends upon free, full, and informal discussion of all material presented by the staff, full attendance, and adequate leadership. If these clinical staff conferences are organized in such a way that they inspire both the major and junior staff of any hospital with a desire to more carefully study their cases, thereby rendering a greater and more efficient service to the patients that come under their care, they have justified their existence and have attained their object.

As valuable as clinical staff conferences have proved in bringing the various members of the hospital staff into closer contact, co-operation between the various services should and does by no means stop here. In every well-organized hospital, great or small, some adequate method for continuous co-operation and consultation between the various services must exist. In such a scheme the medical services should always occupy a conspicuous position. As one reviews

the situation, especially as it is found in some of our smaller hospitals, the impression is gained that a sufficiently close relationship between the medical and other services has never been established. Indeed in too many institutions internal medicine has been relegated to a subordinate position in contrast to the other services.

Every hospital, regardless of how well developed its other departments may be, can hardly be regarded as a properly balanced institution unless an adequate medical service has been developed. A properly functioning medical service should be available not only for the care of cases that are primarily medical, but should also be prepared at all times to furnish to the surgical and other departments effective medical aid and supervision. If this function of the medical service was less often forgotten and the internist was given an opportunity more often to co-operate in the study of surgical material, it is highly probable that at times certain postoperative complications and some of the more remote sequellæ of operative interference might at least be lessened.

Some concrete examples may serve to illustrate briefly the way in which a closer relationship between internal medicine and other departments might at times work to advantage. Who has not seen instances of a patient who, following comparatively simple operation, has developed postoperative pulmonary complications because of a slight but unrecognized pre-existing upper respiratory tract infection, which possibly might have been discovered had a competent internist been given an opportunity to examine the patient before operation. Not infrequently such a simple procedure as a tonsillectomy has been performed upon some one with an unsuspected latent pulmonary lesion, only to have active tuberculosis of the lungs light up because of the injudicious use of an irritating anæsthetic. A proper medical examination made prior to operation might conceivably have called attention to the existing pulmonary lesion. Postoperative renal suppression might at times have been averted, if before operation a careful medical study of the vascular and renal apparatus had been made. Certainly in some of the more uncertain conditions of the abdomen, such as the so-called chronic appendix, or in some of the more or less obscure chronic conditions of the gall bladder, medical supervision prior to and certainly after operation might be of value and should be an aid in averting some of the unsatisfactory results of operations too hastily undertaken. Instances such as the above have brought about a growing belief that much might be expected from a close relationship between internal medicine and the other departments in our hospitals.

One way of placing internal medicine on a better working basis with the other departments is to adopt the plan of having routine medical examinations carried out on all patients admitted to other services by competent internists definitely assigned to this work. Such a plan has been adopted by some hospitals and in one institution it came under the writer's personal observation. There is no thought in such an arrangement that the internist should in any way interfere with the prerogatives of his surgical and other colleagues. The function of the medical examiner is solely to note such medical conditions as are present in the patients, so that the surgeon and others in immediate charge will be fully aware of their existence, and that armed with such knowledge they will be in a better position to safeguard the interests of their patients and to seek medical aid if they so desire. In order to make such a plan a success, certain difficulties must be overcome. In the first place, unless the medical men assigned to this work spend most of their time in one hospital and are free from the entangling alliances of many hospitals, it is difficult to have them available when needed and to have the examination promptly carried out. In the next place, it is necessary that patients for operation be kept in the hospital at least twenty-four hours before operation in order to allow time for medical examinations. Finally, it is essential that the surgeons and others whose patients are to be examined should fully understand the object of such examinations and should exhibit enthusiasm for and co-operation in the undertaking. The plan has decided merits and with a little effort can be made to function smoothly to the advantage of all.

It is undoubtedly true that today few surgeons hesitate to perform operations, even operations of election on individuals who are suffering with chronic visceral disease. Chronic renal disease, high blood pressure, various cardiac conditions, and chronic pulmonary disease rarely act as a deterrant when operation is indicated. This is in no sense surprising, in view of the improved technique and marked advance that has been made in general and local anæsthesia. Nevertheless, in the handling of such a case it seems not too much to expect that in our hospitals today there should be close co-operation between the surgeon and the medical service.

It is equally true that the internist should avail himself of expert surgical opinion, in many

instances much sooner than he does. For example, it is a distinct help to have a surgeon see a case of typhoid even when no surgical complication is suspected, in order that the surgeon may have a better knowledge of the patient's condition and the state of the abdomen prior to the time when he may be called upon for a possible emergency. Similarly in handling the minor infections that occur in diabetes, it would be of distinct advantage to have surgical supervision constantly available. In many pulmonary and abdominal conditions without a question the internist should call upon his surgical confreres long before urgent intervention is necessary.

The relationship of the internist to the ophthalmologist has long been well established. The internist is well aware of the fact that by means of the ophthalmoscope many diseases can be recognized earlier and more positively than in any other way. On the other hand, experience shows an increasing number of ocular conditions that are dependent upon chronic visceral disease, focal infections, and metabolic disturbances, with the result that the medical wards are indispensable adjuncts to the ophthalmic clinic.

Little need be said about the well-known relationship that exists between the otolaryngologist and the internist. The frequency with which medical conditions are dependent upon focal conditions about the nasopharynx and the rôle of systemic disease in producing disturbances of the nose and throat, has made these clinical departments closely interdependent.

A steady increase in our knowledge of the complicated relationship that exists between the various organs of the body and the way in which they are all more or less involved in diseased conditions has broken down the artificial barriers that once divided the various branches of medicine. The increasing number of borderland conditions makes it obvious that no clinical department is capable of functioning properly without the aid of other departments. In the development of our hospitals today it must be our duty to see that every clinical department is not only adequately represented, but also that those who are in charge recognize the relationship that these departments bear to each other and the absolute necessity for close and whole-hearted cooperation.

CASE RECORDS IN THE DEPARTMENT OF INTERNAL MEDICINE

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CASE records are well defined in the "Minimum Standard" of this body and no further definition is needed. Their purpose is the same on the various services of a hospital. It is intended that they shall (a) act as an immediate aid in diagnosis and treatment, (b) be available to acquaint consultants and others newly entering the case with the details and progress of the case to date, (c) form part of the health record of the individual and his family for future use, (d) be available for statistical, scientific, and research purposes, and (e) be available in teaching hospitals for pedagogic uses.

What are the requirements, then, of a satisfactory case record in order that it may serve the above purposes?

To be of immediate aid in diagnosis and treatment necessitates that the record be commenced promptly even if hurriedly, that it be accurate, and intelligently planned and carried out. This is easy to say and difficult to do, and the difficulties differ on the various services of the Hospital. On the medical service there is seldom any difficulty incident to the emergency hurry which is so familiar on the surgical side. It must be a very difficult matter on the surgical side to make any rule demanding written records prior to operation in an acute case, and yet it must be admitted that without adequate records an occasional needless laparotomy will be performed on cases of, let us say for example, heart block or pneumonia. On the medical service the fault is apt to be a too slow realization of an emergency perhaps in part incident to the patients being immersed in the regular routine of the service.

There is not much value to a history written up from memory aided by imagination and a knowledge of what the symptoms of the condition found at operation should have been. On the other hand there is much objection to a long rambling record such as a medical service sometimes produces.

Inherently, medical case records will on the average be longer and fuller than surgical ones and they will be used oftener and more carefully. There is, therefore, more reason for the typing of medical records and for some method of making the salient points quickly ascertainable as for

example by red underlining or red typing of chosen phrases, or as is the practice at the Hospital of the University of Pennsylvania, by carrying in red in the margin a very brief abstract of the record from beginning to end. This is of great help to a consultant and to the teacher using the case, or for the later review of the case record.

This necessitates a larger budget for typists and secretaries on the medical side than on the other services. It does not, however, justify in the least the taking of a medical history by a technician. The taking of a really good medical history is an art for success at which a broad knowledge of medicine and humanity is required as well as some of the keenness of a detective and the patience of Job.

A physician or student can display his ignorance and lack of orderly thinking in the taking of a case history more quickly than in almost any other way. I would be perfectly satisfied to substitute the taking of a history for the usual examination questions in medicine. Upon the correctness of the history will often rest the diagnosis. We have all seen patients with scars of needless laparotomies whose true condition was hypertrophic spondylitis or tabes dorsalis which became apparent as soon as a careful history was taken. We recently had a tabetic enter our wards with five laparotomies to the credit of the profession, all fruitless except perhaps of adhesions.

Nothing can replace the careful history and the detailed study of the patient. Show me the man who can't be bothered with such details and I will show you a conceited egoist who thinks he rises above the laws that govern others. Such a one is a danger to his patients.

Case records are not in the future going to be shorter but longer, the detailed study of the patient will grow a more complicated and time-consuming affair. Allergic skin tests have not shortened the history of an asthmatic but have taught us the multitudinous questions which must be asked. The electrocardiograph has taught us how to recognize some arrhythmias by their symptoms and this is reflected in a longer history.

Hospital authorities must see the light and lead the way in supplying adequate facilities along these lines. The medical profession must realize the trend and be prepared to cut down still further the number of patients seen per diem and increase the time given to each. There has been a great change in this respect in fifty years and it is still going on. Case records reflect this. Brilliant intuition is wonderful to talk about when it succeeds, but its far more numerous failures must not be forgotten.

To acquaint consultants and others newly called into a case with the details and progress of the case to date, the case record must not only be complete and well kept but must be available. The consultant called to see a case on another service in the hospital, as for example the medical consultant to the surgical service, is justified in demanding that the entire case record be awaiting him, including the treatment sheet and the laboratory and special examination findings. The case record should never leave the ward except to accompany the patient to an examination or consultation. The custom of keeping the records in the Chief of Service's hospital office or in the intern's bedroom is inexcusable. The consultant should be given the opportunity of acquainting himself with all the details and he should take the time to do so.

Of course the record should be legible and understandable, and this covers the matter of abbreviations and hieroglyphics peculiar to the service or intern. In return the consultant's notes should be intelligible, an opinion, not a description, and should state whether the consultant will see the patient again unrequested.

There is a growing tendency, or should be, for every individual to have a record of his health, his illnesses, accidents, vaccinations, etc. This has been made necessary by the changing character of medical practice; formerly the family doctor, now the many specialists. For this purpose the hospital record of a case should be useful and it may not be so long before we see every patient, or at least every patient of certain kinds, supplied on leaving the hospital with an abbreviated record of his case which he will add to his health record and keep. This seems to me to be worth further consideration but not at this time.

Case records after the patient has left the hospital must be kept available for statistical, scientific, and research purposes. This means that they must reach the proper filing room which sounds simple but actually is not always so—especially when the case has been transferred from one service to another. Once in the filing room the records must be properly filed and indexed. Of primary importance here is the exact wording of the diagnosis, a matter often differently done by each intern.

The proper support of the record room is an expensive matter and non-medical hospital superintendents and managing boards are apt not to appreciate the importance and necessity of devoting funds to this purpose. It must be done well

or is useless. Incidentally it is my conviction that case records should be grouped in the record files according to diagnosis rather than according to years, or sequential admission. By any method a single record is easily obtained if properly indexed but for statistical and scientific purposes groups of records of the same disease are usually desired and these should be found bound or grouped together. No medical interest attaches to the case records of the year, or to any one hundred consecutive admissions as a group.

In a teaching hospital all records must be even more carefully prepared than elsewhere because of the tremendously important example which is thus set to the students who see good detailed records being built up and used daily. This is obvious as regards a so-called teaching hospital with medical students in its wards, but are not all hospitals teaching hospitals? The visiting staff, the interns, and the patients need all to have emphasized to them constantly the value of thoroughness and method. No better way of guaranteeing good staff work in a hospital exists than the proper insistence on good records being taken. There can be no better training for interns, and no better way of impressing patients with the hospital's desire to do earnest, serious work.

Records can only be kept to the high degree of perfection which should be attained, through the constant effort and co-operation of the professional staff and as a result of a liberal policy on the part of the financial authorities of each hospital.

THE PATHOLOGICAL CONFERENCE IN WELL REGULATED HOSPITALS

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AFTER the invitation, to present a paper on Pathological Conferences in Well Regulated Hospitals, was received by the American Society of Clinical Pathologists, a letter was sent to the members of the Society requesting them to briefly outline their views in regard to this subject, so that a composite of their views could be incorporated in this paper. We felt that this would be advisable since the views of many are of more value than those of a single individual, on this particular subject.

In practically every reply received directions were given for conferences on postmortems and tissues. Here and there were notes on the best place to hold the conference, the time, frequency, those who should participate and their order in the discussion, methods of demonstrating tissues, material to be used and similar topics. Occasionally a conspicuous voice was raised as to the necessity and desirability of doing something other than holding conferences over dead bodies or tissues removed, either for diagnosis or treatment. Several expressed the opinion that conferences held at the bedside would be desirable.

It seems to me that the object of this invitation was something more than the mere detailing of the few facts incident to holding a conference over a dead body. The patient who was the primary cause of the conference is no more and derives no benefit from such a late conference. Why not hold pathological conferences or rather conferences with the pathologist or clinical pathologist during the patient's life? Shall we discuss only the mere mechanical details of such a conference and ignore the person—for after all what would the conference be if the person—the individual—the pathologist were not there to direct it and inject the knowledge into the conference necessary to make it of value? It therefore seems advisable and desirable to discuss the question of pathological conferences in well regulated hospitals from the broader view. The terms pathologist and clinical pathologist as used in this paper are synonymous. Incorporated in this discussion are the compiled views of the replies received to the letter, together with some views regarded as vital by me. If I am successful in getting you and your associates to give the personal side of the question a little more consideration than is at present accorded it, the time and efforts expended will have been justified.

Pathological conferences may be divided into three parts:

(1) The conference between the pathologist and the physicians in charge of the patient during the patient's illness.

(2) The conference between the same parties after the pathologist has completed such tests and laboratory procedures as were decided upon at the first consultation.

(3) The autopsy, should the case terminate fatally.

Unfortunately many physicians, including internists, surgeons, and specialists, regard the pathologist as merely a laboratory worker. Under such a condition the pathologist merely performs the tests ordered by the attending physician and the pathologist's duty in such a case should end with the rendition of his report. His is not the duty to interpret the findings, but we find by sad experience that the attending physician expects a full report on the tests asked for and, in addition, a full and detailed interpretation of the report. If, as frequently occurs, the report is contrary to the attending physician's expectations, he immediately and at times with an injured and surprised tone demands an explanation as to why such a contrary result occurred. It is then that the pathologist will be told of some of the symptoms, often in a begrudging manner, and still more often by dint of thorough questioning by the pathologist. Even with this meager and tardy information the pathologist is often able to explain the unexpected results obtained and to suggest some other test or procedure probably more pertinent to the case. How much better then it would be, if the pathologist were called in first and given an opportunity to familiarize himself with the case and its symptoms, then he would be in a proper position to suggest the tests indicated and could discuss the results in a more consistent and logical manner.

It is the experience of nearly all pathologists that numerous tests are asked for by attending physicians, when there is no indication for them. This throws an unnecessary burden upon the personnel in the laboratories. It takes time that could more profitably be devoted to other things. It would save the attending physician's time and mental energy if he would not attempt to fit into his case a number of tests, for which he asks, and the significance of which may not be entirely clear to him.

I would not leave the impression that the pathologist should be the sole judge of what tests should or should not be done. However, I do make a very earnest plea that the pathologist is a physician and as such has the right and should be accorded the privilege of a consultation if he is to interpret the results of the laboratory tests in connection with the particular case.

The second phase of the conference takes place after the tests decided upon at the preliminary consultation have been completed. The reports should be charted as soon as the results are known. The pathologist will see to it that no time is lost in the laboratory in the performance of the tests. I would like to enter a word of caution here. The physician should not expect the pathologist to do the work in an unreasonably short time. Thorough conscientious laboratory work requires time, and if the tests asked for are worth while, sufficient time should be allowed for their proper performance. At this conference the pathologist may show his findings to the physicians interested in the case; such findings may be tubercle bacilli in stained smears, spirochæta pallida in dark field preparations, plasmodia in blood films, amœba in stools, bacteriological specimens from blood cultures and other sources, tissue slides, etc.

Demonstration of such material may seem academic to many but it serves the distinct purpose of keeping fresh in the physician's mind many details of laboratory work that are vital. At such demonstrations the pathologist or his assistants should avail themselves of every opportunity to explain interesting features of the work involved and especially to discuss the pathological lesions that were causing the symptoms.

In addition to such demonstration of material the pathologist will often be called upon to discuss details of treatment, extent of operation, and management of cases. Some forms of treatment (vaccine therapy, inoculations of various sera, Swift Ellis treatments, transfusions, intravenous and intraspinal medication) will frequently be left to the pathologist and a decision in regard to these various treatments should be reached at this consultation.

It may be well at this time to discuss another feature of the close association that should exist between the attending physicians and the pathologist. I refer to a follow-up form by which the pathologist may be advised as to the progress of the case. It is obvious that he cannot make rounds like the attending physician to see the patient's condition. It is also obvious that if the pathologist's work is to be of value to himself and the institution which he is serving, he should know what results are being obtained by the particular form of treatment instituted. We thus see that the pathologist's work is much more important than the mere technical performance of some laboratory procedure. None of the details in regard to treatment should be left in the hands of technicians.

The third phase of the pathological conference has to deal with the postmortem. This should be performed as soon after death as possible. The attending physician should obtain the permission of the patient's nearest relative or legally responsible individual. In many instances such per-

mission can be obtained even before death. All physicians interested in the case should attend. In teaching hospitals, certain groups of students will be required to do so. The autopsy should be held in a large, airy, convenient and well-lighted room. Those watching should be able to see distinctly, otherwise they gain nothing by their mere presence. Full description of the details should be taken by a stenographer, if available, also by an assistant and by the students. When interesting features are encountered the pathologist should stop long enough to explain and give every one an opportunity for close observation, and to interpret the clinical significance of the pathological lesions. It is not my purpose to discuss details of performing autopsies. After the autopsy is completed the various organs and other specimens should be arranged in convenient form and a general discussion take place then or later. While the discussion is going on, frozen sections can be prepared from such tissues as suggest the advisability of this procedure; smears from exudates, discharges and pus can be prepared for immediate examination.

The discussion will be opened by the attending physician or an intern, who will read the history, symptoms and all data pertaining to the case. The consultants should then give their findings. The pathologist will report the results of such laboratory work as was not covered in the original presentation. Specimens will be exhibited and those lesions readily recognizable by others than pathologists, demonstrated. No effort should be made to show the finer lesions in detail as these are not interesting to, nor is their value appreciated by, the average physician. When discrepancies occur in the autopsy findings and the diagnosis every effort should be made to discover the reason. Surely, no self-respecting physician will be guilty of injecting ridicule, horse play, or biting sarcasm on such an occasion. The autopsy is held for the purpose of ascertaining the facts in the case, and in a true spirit of science and of mutual co-operation, the energies of all interested in the discussion should be devoted to the cause of truth.

In many hospitals, pathological conferences are held at stated intervals; monthly, weekly, bi-weekly, or more often as circumstances require. The elaborateness of the pathological display will depend upon the equipment of the laboratory, the personnel and the material. The equipment may be very elaborate. If it includes photographic and projection apparatus, camera lucida, demonstration microscopes, a properly cared for museum, and many other items of paraphernalia, the conference can take on a very elaborate form. The size and financial ability of the institution will determine the desirability or need for such elaborate apparatus. The personnel may be the pathologist alone or with one or more technical assistants. Here again the size and financial ability of the institution will determine the number and character of individuals in the laboratory. In the large hospitals a chief pathologist or director of the laboratory with several heads of departments, each with his assistants and technicians may be found. While in the very small hospital one technician may be in charge of the laboratory and do all of the work that is required. All degrees of variation between these two exist. Irrespective of the size of the institution or the elaborateness of the equipment or the number or type of individuals subordinate to the pathologist, we must not lose sight of the fact that the pathologist is the controlling force. It is his duty to supply the medical and surgical services with the necessary reports and in collaboration with such services, make diagnoses, determine proper treatment, in certain cases administer treatment, make further tests as controls, be in constant touch and in perpetual conference. Can all this be expected from one individual? Yes. Unfortunately there are not enough such individuals to fill the demand and we have not far to look for the reason.

If we examine the relative position of the pathologists and other members of the staff, we frequently find that the pathologist is regarded as a sort of menial employee of the hospital or at most a poor dub who hasn't sense enough to get out of the laboratory. Certainly, if the pathologists were looking only to the financial returns of their labors, they would go into another branch of the practice of medicine.

The interns "serving time" (if I may be permitted to use this idiom) in our hospitals are quick to note the relative financial returns of the various branches of medicine. The surgeon with his retinue of assistants, nurses, and office help does not fail to keep a financial goal, greatly to be desired, before the interns' eyes. The fees of the consulting internist and specialist also become a topic of common discussion among the interns. The standing of the pathologist offers a very poor contrast by comparison. It is small wonder, then, that very few interns select pathology or clinical pathology as a career. Many who do, finding after two or three years of pathological work, that the wages are long steady hours of hard work and constant study with very little pay and just as little recognition, and realizing their fitness

to cope with the more lucrative side of practice, desert the field of pathology. I would then most earnestly focus your attention upon this practical but seldom considered fact in connection with pathological conferences in well-regulated hospitals.

The American Society of Clinical Pathologists sincerely appreciates the spirit of good will and co-operation of the American College of Surgeons as demonstrated by the invitations extended by your hospital committee to discuss subjects of mutual interest to both societies.

We realize the unity of purpose that exists; namely, both organizations are working for the welfare of the patient, the hospital, and the community in which we reside. It is the desire of both organizations to render the best service that it is possible to give. To that end, we would suggest that the pathologists and clinical pathologists who are connected with the hospitals be used more in an advisory capacity than is at present the custom. The pathologist devotes his time, thought, and energies to interpreting pathological findings and could render better service in the individual cases if he were familiar with the symptoms.

We believe that pathological conferences in well-regulated hospitals would thus become more interesting, more valuable and would be uniformly successful.

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